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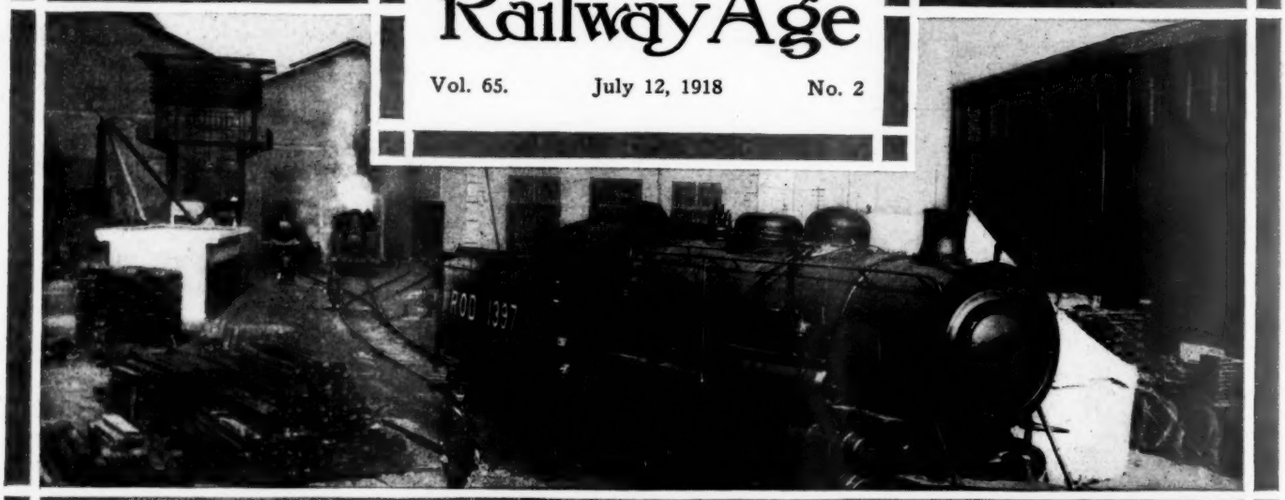

An American Built Locomotive at a British Railway Shop in France. British Official Photo from U. & U., N. Y.

Contents

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EDITORIAL

Railway Age

The Difficulty of Maximum Wage Rates

In attempting to control the rates of wages for track labor on the western roads the Railroad Administration is experiencing the same difficulties that confront other employees in times of acute labor shortages and it is being forced to resort to many of the same expedients which they have adopted. Early in April the western regional director established maximum rates of pay for track labor of 27½ cents per hour in the northwestern territory and in all large terminals and 25 cents per hour elsewhere. On June 13, these rates were increased to 30 cents per hour in certain specified large terminals and important industrial centers and 27½ cents outside. On July 8, the maximum rate allowed outside of the Chicago terminal district was further increased to 30 cents per hour at all points. Thus it has been necessary to raise the rates twice within the three months after their establishment and at the same time the roads have been unable to secure the forces normally employed. With the enforcement of the order after August 1 requiring all industries employing over 100 men to engage them through the United States Department of Labor, some control over the competition between these industries will be established. However, these requirements will affect the railways only to a limited extent because their competition is primarily with the small employers of labor, including the small-town contractor and the farmers. The labor problem is an exceedingly complicated one at the present time and the results of the experiments now being conducted on the western roads will be awaited with a great deal of interest.

One Phase of the Labor Problem

Railroads have devised the most accurate and complete specifications for all sorts of materials which are used in locomotives, cars, tracks, bridges and other equipment. The smallest bolt must be made to fulfill certain exact requirements. Not a few railroads maintain extensive testing laboratories in charge of thoroughly trained experts. The human factor —that factor that will yield little or much according to its handling and training—has unfortunately received much less scientific study and attention. Officers have often been selected more for their technical ability or experience than because they were experts in supervising and directing the work of men. It is very necessary that critical and detailed attention be given to materials, but it is far more necessary that such atention be given to the human factor, and it is fast becoming generally recognized that the emphasis must be placed on this. Technical ability on the part of an officer is important, but executive ability and personality are vital. Far-seeing executives have realized this for a long time, but not a few railroad officers seem to be waking to it only under the abnormal conditions which exist in the present emergency. Unfortunately, also, some of those high in authority in the Railroad Administration have failed to grasp the importance of these principles in dealing with the officials with whom they have come in contact. Equipment and organization are necessary for the success of an army, but the events of the past few years have clearly indicated that the morale of the army stands first in importance. The same thing is true of our great railroad organization, and no stone should be left unturned to strengthen and develop this morale to the highest possible degree.

Heavier Loading Economical for Shippers

In a campaign which one of the large railways is conducting to increase car loading, attention was called recently to a shipment of perishable products which would require 160 cars under the then-existing methods of loading but which could be carried in 100 cars if loaded to capacity. This was called to the notice of the shipper who replied that it would cost him $5 per car additional to load in this manner. The railroad officer offered to pay this added expense if it actually proved to be necessary. After the shipment was loaded as recommended the consignor asked for his $500. The railway man indicated his willingness to pay the amount but stated that the shipper should in all fairness deduct from the additional cost all savings which he himself had made through using a smaller number of cars. The railroad man then pointed out that the cost of ıcing 60 cars at $8 each, or $480, had been eliminated. He likewise estimated the savings in demurrage, in labor because the shipper had only 100 instead of 160 cars to move from his door, etc.; and the shipper finally was forced to admit that he actually saved money through loading the cars heavier. This experience is worthy of emphasis among shippers in general. Often they load cars heavier only because of their desire to do the patriotic thing under present conditions while harboring the thought that they are making a sacrifice in so doing, when as a matter of fact they are themselves profiting by the expedient. When a shipper can be brought to realize that it is to his own selfish interest to load cars heavier, he will be given the strongest possible incentive to do so. In approaching shippers on this subject railway men can well afford to bear this point in mind and to consider the conditions under which their patrons operate sufficiently to be able to present these savings intelligently to them.

Condition of Power and Equipment

Concentrated attention to the repair of locomotives and the agreement with the unions to work more than eight hours a day has made it possible greatly to improve the condition of the power. It is said, for instance, that the average condition of the locomotives at the present time is better than it has been at any time during the past 18 months. This is remarkable when one considers the conditions under which the power was operated during this period and particularly throughout last winter. Gratifying as the situation appears, it does not mean that the locomotives are in anywhere nearly as good condition as they should be succesfully to handle the heavy traffic of the coming fall and winter. A few of the roads, and included among them are some of the larger systems, are in bad shape as to their power at this time, but the Railroad Administration is making every effort to see that the weak spots are strengthened. Mechanical department officers in the past have sometimes complained that they

were hampered in their efforts to keep the locomotives and equipment in good condition because of the financial policies of their roads. No such excuse can be used under present conditions; it is strictly up to the head of the mechanical department to see that everything possible is done to place and maintain the equipment in the best possible condition. Unfortunately, the freight cars are not nearly in so good shape as the locomotives, and strenuous efforts will have to be made to overcome this handicap. Frank McManamy, the new mechanical assistant to the director of the Division of Operation of the Railroad Administration, has sent an order to the regional directors, which is noted elsewhere in this issue, authorizing the making of repairs to foreign equipment which under the M.C.B. rules would be classed as wrong repairs, and ordering each railroad to take the same care of foreign cars as it would of its own. This will help greatly, but on many roads it will be necessary to strengthen the organization of the car repair department and improve the supervision.

Local Interference with National Projects

IN sustaining the New York Central in its attack on the law passed by the State of New York last year, limiting the right of this road to bridge the Hudson river a few miles below Albany, N. Y., the New York State Supreme Court has added another chapter to the conflict between the state and the national governments. The main line of the New York Central passes through the city of Albany and crosses the Hudson river a short distance below the station on a low level swing bridge. The river traffic at this point is heavy, the draw bridge being opened more than 40 times a day. Furthermore, Albany lies at the foot of a grade against westbound traffic of 90 ft. to the mile. As all traffic moving down the east side of the river into New York City (including almost all passenger and a large number of freight trains) and both freight and passenger traffic between Boston and Albany points and the west, must pass over this line, relief from these adverse operating conditions has become necessary.

The road planned to avoid them by the construction of the Castleton cutoff which would divert all freight traffic around Albany. It was planned to cross the river on a high structure (without a draw span) with spans of 600 ft. and 405 ft. across the main channel. Approval of this structure was granted on May 2, 1917, by the secretary of war who has jurisdiction over navigable streams and is responsible for the prevention of all obstructions to navigation. Shortly after this the New York state legislature in response to a demand from citizens of Albany, passed a law requiring a channel span of 1,000 ft. This extreme requirement added over $3,000,000 to the cost of the bridge and the road contested its legality.

Pending the decisions referred to above, work on this project has been at a standstill. Thus, at a time when increased traffic facilities are greatly needed for the welfare of the entire nation, Albany and the state legislature of New York have allowed selfish local interests to stand in the way of the elimination of one of the most serious points of congestion on a main artery of national commerce. The decision of the Supreme Court states that, "It will be seen that both Congress and New York state have passed laws on the subject of proposed bridges. This being the situation, which is the controlling authority? It seems to me that there is but one answer and this answer should not be given by yielding to public sentiment or to the desires of influential public bodies who have spoken on the subject, but must be responsive to the controlling power of the supreme law of the land." While it is understood that the state will appeal from this decision, it is to be hoped that it may be sustained and that it may exert a restricting influence on other local interference with national projects in the future.

Store-Door Delivery of Freight

STORE-DOOR delivery of freight in New York City, an improvement for which there is great need, seems now to be in sight. This proposed innovation, described in the *Railway Age* of February 1, 1918, pages 241 and 276, and on another page of this issue, bristles with such numerous difficulties that it has engaged the attention of all the principal parties in interest for many months, yet without any visible progress being accomplished. Commissioner Harlan has decided, evidently, that the situation is one in which, in the language of Grover Cleveland, "it is a condition and not a theory which confronts us"; and he is determined to make a trial. More accurately, the theories do confront us, but mainly as obstacles.

The committee's scheme, as outlined, makes no mention of a pool of trucks, nor do the railroads propose to do any trucking, but the main elements of the needed reform are accorded due prominence. These are (1) to have incoming freight loaded on to wagons as soon as practicable, no time being lost in sending notices to consignees, and, (2) to limit or entirely suspend the right of any truckman to enter a railroad pier or freight station unless he joins in the adoption of the comprehensive scheme for economy in loading and in travel which is a main feature of the proposed change, and which promises such valuable benefits to every merchant as to demand the hearty co-operation of all. In theory the railroad ought to allow each merchant a day or two in which to take away his freight; it is a time-honored right. But the granting of this right is now wasting thousands of dollars every day. In theory each consignee has a right to come with his own big wagon to get a single box; but in the extreme congestion prevailing in New York (and which prevailed long before the war) the only way to effect reasonable economy of space and effort is to limit or deny this right. In theory the railroads ought not to meddle with street traffic or to spend a cent on drayage; but, in fact, the conditions are so chaotic that there seems to be no promise of relief except as they (with the co-operation of the government) step in and boldly reorganize the draying business on radical lines. They already have the friendly co-operation of influential truckmen; and with a sufficient increase of this friendliness—of which there is every prospect—the movement ought to succeed speedily. The important desideratum is good will; for on all questions of methods, economy, etc., the extensive private trucking enterprises of Chicago, St. Louis, Kansas City, and numerous smaller places afford all needful lessons.

Slight Increase in Freight Handled

THE DIFFICULTY of increasing the amount of freight handled by the railways of the country is indicated by statistics which recently have been compiled by the Bureau of Railway Economics. We have now had six months of government operation. The statistics of the bureau referred to cover freight operations during the first three of these months, January to March, inclusive. They show that during these three months the total ton-miles of freight traffic handled were 83,355,000,000, as compared with 85,615,000,000 during the same months of last year a decline of 2.6 per cent.

This decline in the amount of traffic moved unquestionably was due chiefly to the severe weather in January. In that month the ton-miles handled were 17.2 per cent less than in the same months of 1917. While January was a very bad month in point of weather, February was a better month

than February, 1917, and there was an increase in February, 1918, over February, 1917, of 2.9 per cent in ton-miles. A still better showing was made in March, when the ton mileage increased 7½ per cent.

The most interesting and significant statistics, of course, are those for the eastern district, where the congestion has been the most severe. It was the congestion on the eastern roads which really precipitated the adoption of government control. The statistics show that during the first three months of this year the eastern lines handled 9.4 per cent less freight traffic than during the same months of 1917. They handled 25 per cent less in January than in January of last year; 5 per cent less in February than in February of last year, and only 2.2 per cent more in March than in March of last year. On the other hand, the railways in the Southern district handled slightly more, and the railways in the western district substantially more freight in the first three months of this year than last year. This was especially the case in March. In that month while the eastern lines handled only 2.2 per cent more freight than in the same months of last year, the southern lines handled 10½ per cent more and the western lines 15.4 per cent more. Undoubtedly the apparently better showing made by the southern and the western than the eastern lines is mainly due to the fact that the southern and western lines have not been operating so nearly to their maximum capacity as the eastern lines.

The statistics for March afford, perhaps, the best available test of the efficiency with which the railways are being operated under government control. They make clear that the greatest gain which has been secured has been in the tons per loaded car which increased from 26.4 to 28.1 or 6.4 per cent. Average miles per locomotive per day increased only from 66.6 to 66.8, while average miles per car per day decreased from 25.6 to 24.9.

The most interesting comparisons of the results gained under private operation and under the present system have yet to be made. January to March, 1917, were the last three months before the United States entered the war, and therefore the last three months before the direction of the operation of all the railways was delegated to the Railroads' War Board. Beginning with the statistics for April it will be possible, if the statistics are made on the same basis, to compare the results gained under the Railroads' War Board with those gained under the direction of the organization created by Director General McAdoo.

"Good-Bye" from E. P. Ripley

E. P. RIPLEY, having decided to remain president of the Atchison, Topeka & Santa Fe Company, which involves his retirement as the manager of the company's property, has written his "Good-bye" to the employees of the road. We publish his message on another page. A message such as this from Mr. Ripley means more than a similar message from most of the presidents who have decided to stay with their companies. Most of them are men young enough to anticipate that, on the return of the roads to private control, they will be placed again in direct charge of their management. Mr. Ripley, on the other hand, has been for some time considering relinquishing the active management of the Santa Fe property; and therefore, now that he is laying it down, he is not likely ever to resume it. That he will continue to be connected with the company, and to dominate in its counsels, as long as he cares to, goes almost without saying.

Mr. Ripley's "Good-bye" will cause a pang to many persons in the railroad world outside the Santa Fe family, and to many persons entirely outside the railroad world. But nobody need regret it, on his account, at least. It is true he is advanced in years, but, after having had, a few years ago, a period of precarious health, he is again strong and well. With a devoted family, a circle of friends as wide as his acquaintanceship, and as capable as he ever was of enjoying books indoors and golf and motoring outdoors, and just enough real work to keep him busy when he really wants to work, he is so equipped and situated as to get a lot of pleasure out of life; and certainly nobody can conceive of him getting any pleasure out of managing a railway under government control!

As to his reputation, that is secure, if the reputation of any living American is. He has managed the Santa Fe over twenty-two years; he has raised it from a poor bankrupt into one of the greatest railroads in the world; and in the last year he managed it, its physical property was in the finest condition, its service was the best, its property reached the highest point, and its popularity was the greatest that it ever was. The Santa Fe has been made what it is by a management whose integrity, whose efficiency and whose loyalty to its public duty now pass unquestioned; and that the kind of management it has had is due chiefly to Mr. Ripley is universally recognized.

In view of all the facts, the *Railway Age* declines to feel or express any regret on Mr. Ripley's account because he is saying "Good-bye." On the contrary, since he, like all men, must, at some time, give up active work, we think he is to be congratulated above almost any other man we have ever known, on the conditions under which he is doing so. Os to the officers and employees of the Santa Fe, and the public that the road serves, the case is different. Even so great a country as the United States does not in each generation produce many men of the size of E. P. Ripley; and the retirement of such a man is a great loss, not only to those who have been closely associated with him, but to the nation. If government control had not been adopted, the Santa Fe road and the country probably would have had his services but for a few years longer; and it is a somewhat startling, but undoubtedly true, reflection, that under permanent government management of railroads there never would be another E. P. Ripley on the railroads of the United States. Fortunately, the prospect of government ownership, with its complete extinguishment in the management of the railroads of such qualities as have enabled Mr. Ripley to do the things he has done, is every day becoming more remote.

New Books

Powdered Coal as a Fuel. By C. F. Herington. Bound in cloth, 6 in. by 9 in. 211 pages, 84 illustrations. Price $3.00.

This book will be of special interest to those railroad officers who are studying the application of pulverized fuel to locomotive boilers, stationary plants, or furnaces. The author was for a while employed as assistant engineer for the New York Central, and a large part of the information was obtained while working in that capacity. The introductory chapter is followed by a discussion of those coals which are suitable for powdering, a description of the apparatus for powdering the coal, and a discussion of the methods for feeding and burning it. Then follow chapters on the use of powdered coal in the cement industry, in reverberatory furnaces, in metallurgical furnaces, and its use under stationary boilers. In the latter chapter attention is given to the installations on the Missouri, Kansas & Texas at Parsons, Kansas, the Schenectady works of the American Locomotive Company and its use by the General Electric Company. A chapter on the use of powdered coal for locomotives covers 17 pages and is largely devoted to a consideration of the advantages of powdered fuel for this purpose, and illustrations of applications to locomotives of the New York Central and the Central Railway of Brazil. The installations on locomotives of the Chicago & North Western and the Delaware & Hudson are also referred to. The last chapter discusses the possibility of explosions and is followed by a bibliography on the entire subject of pulverized fuel, prepared by the Engineering Society's library.

Doings of the United States Railroad Administration

Action on Freight Classification, Valuation, Mileage Tickets and Innumerable Other Things

A TOTAL of 560 railroad companies, a large number of them terminal, union station and switching companies or other subsidiaries, all or a majority of whose stock is owned by the larger companies, have now been definitely listed as being under federal control. The Railroad Administration has not yet issued a list of the short line railroads relinquished from federal control in accordance with its announcement of June 29, but it has made public a list of those included in its jurisdiction without question by issuing on July 3 Supplement No. 3 to General Order No. 27, the wage order, giving a list of 395 railroads to be added to the list of 165 larger railroads to which the wage order was made applicable. The 165 railroads include most of those in Class I, those whose total operating expenses are $1,000,000 or over.

The supplemental list is made up largely of terminal, station and switching companies subsidiary to the other roads, but it also includes a large number of the so-called short line railroads which are independent. Therefore the list of relinquished roads includes a majority of the 765 short lines and of the 1,434 plant facility lines, as well as a large number in both of these classes which are merely paper railroads, never having been built, but included in published lists.

The following list includes both the 165 roads named in the original order and the 395 named in the supplement:

A.

Abilene & Southern.
Ahnapee & Western.
Akron & Barberton Belt.
Akron Union Passenger Depot Co.
Alabama & Vicksburg.
Alabama Great Southern.
Albany Railroad Bridge Company.
Allegheny Terminal Co.
Allentown Terminal.
Alton & Southern.
Ann Arbor.
Arizona & New Mexico.
Arizona Eastern.
Arkansas Central.
Arkansas & Memphis Railway Bridge & Terminal Co.
Arkansas Western.
Arminius Branch.
Asheville & Craggy Mountain.
Asheville & Southern.
Ashland Coal & Iron.
Atchison & Eastern Bridge Company.
Atchison, Topeka & Santa Fe.
Atchison Union Depot & Railroad Co.
Atlanta & West Point.
Atlanta, Birmingham & Atlantic.
Atlantic & St. Lawrence.
Atlantic & Yadkin.
Atlantic City.
Atlantic Coast Line.

B.

Baltimore & Ohio.
Baltimore & Ohio Chicago Terminal.
Baltimore & Sparrows Point.
Bangor & Aroostook.
Baring Cross Bridge Company.
Barre & Chelsea.
Bath & Hammondsport.
Battle Creek & Sturgis.
Bay City Belt Line.
Bay City Terminal Company.
Beaumont & Great Northern.
Beaumont, Sour Lake & Western.
Beaumont Wharf & Terminal Co.
Bellingham & Northern.
Belt Railway of Chicago.
Bessemer & Lake Erie.
Bethel Granite.
Big Fork & International Falls.
Blue Ridge.
Boonville, St. Louis & Southern.
Boston & Maine.
Boston Terminal Company.
Bowling Green Railroad.
Brandon, Devil's Lake & Southern.
Brooklyn Eastern District Terminal.
Brownwood North & South.
Buffalo Creek.
Buffalo, Rochester & Pittsburgh.
Buffalo & Susquehanna R. R. Corporation.
Buffalo Union Terminal.
Butte, Anaconda & Pacific.

C.

Cairo & Thebes.
Calumet Western.
Camas Prairie.
Canada Southern Bridge Company.
Canada Southern.
Carolina, Clinchfield & Ohio.
Carolina & Northwestern.
Carolina & Tennessee Southern.
Centralia Eastern.
Central of Georgia.
Central Indiana.
Central New England.
Central of New Jersey.
Central Terminal.
Central Vermont.
Central Union Depot of Cincinnati.
Charleston & Western Carolina.
Cherry Tree & Dixonville.
Chesapeake & Ohio.
Chesapeake & Ohio Northern.
Chesapeake & Ohio of Indiana.
Chicago & Alton.
Chicago & Eastern Illinois.
Chicago & Erie.
Chicago, Burlington & Quincy.
Chicago, Detroit & Canada Grand Trunk Junction.
Chicago Great Western.
Chicago Heights Terminal Transfer.
Chicago, Indianapolis & Louisville.
Chicago Junction.
Chicago, Kalamazoo & Saginaw (Controlled by M. C. & N. Y. C.)
Chicago, Kalamazoo & Saginaw (Operated by Grand Trunk R. R.)
Chicago & Kalamazoo Terminal.
Chicago, Milwaukee & Gary.
Chicago, Milwaukee & St. Paul.
Chicago & North Western.
Chicago, Peoria & St. Louis.
Chicago River & Indiana.
Chicago, Rock Island & Gulf.
Chicago, Rock Island & Pacific.
Chicago, St. Paul, Minneapolis & Omaha.
Chicago, Terre Haute & Southeastern.
Chicago Union Station Co.
Chicago & Western Indiana.
Cincinnati, Burnside & Cumberland River.
Cincinnati & Dayton.
The Cincinnati Inter-Terminal.
Cincinnati, Indianapolis & Western.
Cincinnati, Lebanon & Northern.
Cincinnati, New Orleans & Texas Pacific.
Cincinnati Northern.
Cincinnati, Saginaw & Mackinaw.
Cleveland, Cincinnati, Chicago & St. Louis.
Coal & Coke.
Coal River.
Coeur D'Alene & Pend Oreille.
Colorado Springs & Cripple Creek District.
Colorado & Southern.
Columbus, Findlay & Northern.
Connecticut River.
Connecting Terminal.
Copper Range.
The Covington & Cincinnati Elevated R. R. & Transfer & Bridge Co.
Cumberland & Pennsylvania.
Cumberland.
Cumberland Valley.

D.

Dallas Terminal Railway & Union Depot Co.
Danville & Western.
Davenport, Rock Island & Northwestern.
Dayton & Union.
Dayton Union.
Deep Creek.
Delaware & Hudson Co.
Delaware, Lackawanna & Western.
Delta Southern.
Denison & Pacific Suburban.
Denver & Rio Grande.
Denver Union Terminal.
Des Moines Union.
Des Moines Western.
Detroit, Bay City & Western.
Detroit, Grand Haven & Milwaukee.
Detroit & Huron.
Detroit Manufacturers'.
Detroit & Mackinac.
Detroit River Tunnel Co.
Detroit Terminal Ry. & Transportation Co.
Detroit Terminal.
Detroit, Toledo & Ironton.
Detroit, Toledo & Milwaukee.
Detroit & Toledo Shore Line.
Direct Navigation Co.
Dover & Rockaway.
Duluth & Iron Range.
Duluth, Missabe & Northern.
Duluth, South Shore & Atlantic.
Duluth & Superior Bridge.
Duluth Terminal.
Duluth Union Depot & Transfer Company.
Dunleith & Dubuque Bridge Co.

E.

Easton & Western.
E. St. Louis Belt.
E. St. Louis & Carondelet.
E. St. Louis Connecting.
E. St. Louis National Stock Yards Co.—E. St. Louis.
E. St. Louis & Suburban.
Edgewater Connecting.
Edgewater Terminal.
Elgin, Joliet & Eastern.
Elk Horn & Beaver Valley.
El Paso & Southwestern.
Englewood Connecting.
Ensley Southern.
Erie.
Erie Terminals.
Escanaba & Lake Superior.
Evansville & Indianapolis.

F.

Farmer's Grain & Shipping Co.'s Railroad.
Florida East Coast.
Fort Dodge, Des Moines & Southern.
Fort Smith & Western.
Fort Smith Suburban.
Fort Smith & Van Buren.
Fort Street Union Depot Co.
Fort Worth & Denver City.
Fort Worth & Rio Grande.
Fort Worth Belt.
Fort Worth Union Passenger Station Co.

G.

Gallatin Valley.
Galveston, Harrisburg & San Antonio.
Galveston, Houston & Henderson.
Gauley & Meadow River.
Georgia R. R. Lessee Organization.
Georgia Southern & Florida.
Gilmore & Pittsburg.
Grand Canyon.
Grand Rapids & Indiana.
Grand Rapids Terminal.
Grand Trunk Junction.
Grank Trunk Milwaukee Car Ferry.
Grand Trunk Western.
Granite City & Madison Belt Line.
Gray's Point Terminal.
Great Falls & Teton County.
Great Northern.
Great Northern Terminal Company.
Green Bay & Western.
Greenwich & Johnsonville.
Gulf & Ship Island.
Gulf, Colorado & Santa Fe.
Gulf, Mobile & Northern.

H.

Hamilton Belt.
Hannibal Union Depot Co.
Harriman & Northeastern.
Hartwell.
Hawkinsville & Florida Southern.
Helena Terminal.
Hibernia Mine.
High Pt. Randleman, Asheboro & Southern.
Hocking Valley.
Houston & Brazos Valley.
Houston & Shreveport.
Houston & Texas Central.
Houston Belt & Terminal.
Houston, East & West Texas.
Hudson & Manhattan.
Huntingdon & Broad Top Mountain.

I.

Iberia & Vermillion.
Illinois Central.
Illinois Terminal.
Illinois Transfer.
Indiana Harbor Belt.
Indianapolis & Frankfort.
Indianapolis Union.
International & Great Northern.
Interstate.
Interstate Car Transfer Co.
Iowa & St. Louis.
Iowa Transfer.
Island Creek.

J.

Jay Street Terminal.
Joliet & Northern Indiana.
Joplin Union Depot.

K.

Kanawha & Michigan.
Kanawha & W. Virginia.
Kanawha Bridge & Terminal Co.
Kankakee & Seneca.
Kansas City, Clinton & Springfield.
Kansas City Connecting.
Kansas City Southern.
Kansas City, Shreveport & Gulf Terminal Ry.
Kansas City Stock Yards Co.
Kansas City Terminal.
Kansas Southwestern.
Keengys Creek.
Kentucky & Indiana Terminal.
Keokuk & Des Moines.
Keokuk & Hamilton Bridge Co.
Keokuk Union Depot Company.
Kewaunee, Green Bay & Western.
Kiowa, Hartner & Pacific.

L.

Lackawanna & Montrose.
Lake Charles & Northern.
Lake Erie & Eastern.
Lake Erie & Pittsburgh.
Lake Erie & Western.
Lake Superior & Ishpeming.
Lake Superior Terminal.
Lake Superior Terminal & Transfer.
Lansing Manufacturers'.
Lansing Transit Company.
Lawrenceville Branch.
Leavenworth Depot & R. R.
Leavenworth Terminal Ry. & Bridge Co.
Lehigh & Hudson River.
Lehigh & New England.
Lehigh & Susquehanna.
Lehigh Valley.
Lewiston & Auburn.
Lima Belt.
Litchfield & Madison.
Little Kanawha.
Little Rock Junction.
Logan & Southern.
Long Island.
Lorain, Ashland & Southern.
Lorain & W. Virginia.
Los Angeles & Salt Lake.
Louisiana & Arkansas.
Louisiana Ry. & Navigation Co.
Louisiana Southern.
Louisiana Western.
Louisville & Jeffersonville Bridge Co.
Louisville Bridge Co.
Louisville & Nashville.
Louisville, Henderson & St. Louis.

M.

Mackinac Transportation Co.
Macon, Dublin & Savannah.
Maine Central.
Manistique & Lake Superior.
Marquette & Bessemer Dock & Navigation Co.
Maumee Connecting.
Maywood & Sugar Creek.
Memphis Union Station Co.
Michigan Air Line.
Michigan Central.
Midland Valley.
Milwaukee Terminal.
Minneapolis & Eastern.
Minneapolis & St. Louis.
Minneapolis Belt Line.
Minneapolis, St. Paul & S. Ste. Marie.
Minneapolis Western.
Minnesota & International.
Minnesota Northwestern Elec.
Minnesota Transfer.
Mississippi Central.
Missouri & Illinois Bridge & Belt.
Missouri, Kansas & Texas.
Missouri, Kansas & Texas of Texas.
Missouri Pacific.
Missouri Pacific Corp. in Illinois.
Missouri Pacific Corp. in Nebraska.
Missouri Valley & Blair Ry. & Bridge Co.
Mobile & Ohio.
Monongahela.
Montana Eastern.
Montpelier & Wells River.
Morenci Southern.
Morgan's, Louisiana & Texas R. R. & Steamship Co.
Morris Terminal.
Muncie Belt Railway.

N.

Narragansett Pier.
Nashville, Chattanooga & St. Louis.
Natchez & Louisiana Railway Transfer Co.
Natchez & Southern.
New Iberia & Northern.
New Jersey & New York.
New Orleans & Northeastern.
New Orleans Great Northern.
New Orleans, Texas & Mexico.
New River, Holston & Western.
New York Central.
New York Connecting.
New York Dock Co.
New York & Long Branch.
New York, Chicago & St. Louis.
New York, New Haven & Hartford.
New York, Ontario & Western.
New York, Philadelphia & Norfolk.
New York, Susquehanna & Western.
New Westminster Southern.
Norfolk & Portsmouth Belt Line.
Norfolk & Western.
Norfolk Southern.
Norfolk Terminal.
Northern Alabama.
Northern Maine Seaport.
Northern Ohio.
Northern Pacific.
Northern Pacific Terminal Co. of Oregon.
Norway Branch.
Northwestern Pacific.
Northwestern Terminal.

O.

Ogden Mine.
Ogden Union Railway & Depot Co.
Oklahoma Belt.
Oklahoma City Junction.
Ontonagon.
Orange Branch (Southern Ry.)
Orange & Northwestern.
Oregon Electric.
Oregon Short Line.
Oregon Trunk.
Oregon-Washington R. R. & Navigation Company.

P.

Pacific Coast.
Panhandle & Santa Fe.
Paris & Great Northern.
Pennsylvania Co.
Pennsylvania R. R.
Pennsylvania Terminal.
Peoria & Bureau Valley.
Peoria & Pekin Union.
Peoria Railway Terminal Co.
Pere Marquette.
Philadelphia & Reading.
Philadelphia Belt Line.
Philadelphia, Baltimore & Washington.
Pierre & Port Pierre Bridge.
Pierre, Rapid City & Northwestern.
Pine Bluff & Arkansas River.
Piney River & Paint Creek.
Piqua & Troy Branch.
Pittsburgh & Lake Erie.
Pittsburgh & Shawmut.
Pittsburgh & West Virginia.
Pittsburgh, Chartiers & Youghiogheny.
Pittsburgh, Cincinnati, Chicago & St. Louis.
Pittsburgh, Ohio Valley & Cincinnati.
Pond Fork.
Pontiac, Oxford & Northern.
Port Huron Southern.
Portland Terminal Company.
Port Reading.
Port Townsend—Puget Sound.
Poteau Valley.
Pueblo Union Depot & R. R. Co.
Puget Sound & Willapa Harbor.

Q.

Quanah, Acme & Pacific.
Quincy, Omaha & Kansas City.

R.

Railway Transfer Co.
Richmond, Fredericksburg & Potomac.
Rio Grande, El Paso & Santa Fe.
Rio Grande Junction.
Rio Grande Southern.
Rio Grande Southwestern.
Riverside, Rialto & Pacific.
Rock Island, Arkansas & Louisiana.
Rock Island & Dardanelle.
Rock Island-Frisco Terminal.
Rock Island Memphis Terminal.
Rock Island, Stuttgart & Southern.
Roslyn Connecting.
Roswell.
Rutland.

S.

San Antonio & Aransas Pass.
Seaboard Air Line.
Southern Pacific Co.
Southern.
Southern Ry. in Mississippi.
Spokane International.
Spokane, Portland & Seattle.
Staten Island Rapid Transit.
St. Charles Air Line.
St. Clair & Western.
St. Johnsbury & Lake Champlain.
St. Joseph & Grand Island.
St. Joseph Belt.
St. Joseph & Central Branch.
St. Joseph, South Bend & Southern.
St. Joseph Terminal.
St. Joseph Union Depot Co.
St. Louis & O'Fallon.
St. Louis Belleville Electric.
St. Louis Belt & Terminal.
St. Louis Bridge Co.
St. Louis, Brownsville & Mexico.
St. Louis Merchants Bridge Terminal.
St. Louis-San Francisco.
St. Louis, San Francisco & Texas.
St. Louis Southwestern.
St. Louis Southwestern of Texas.
St. Louis National Stock Yards Co.
St. Louis Terminal.
St. Louis Transfer.
St. Louis, Troy & Eastern.
Sainte Marie Union Depot Co.
St. Paul Bridge & Terminal.
St. Paul & Kansas City Short Line.
St. Paul Union Depot Co.
Salt Lake City Union Depot & R. R. Co.
San Antonio Belt & Terminal.
San Antonio, Uvalde & Gulf.
Sandy Valley & Elkhorn & Long Fork.
Sandy Valley & Elkhorn.
Sapulpa & Oil Field.
Sault Ste. Marie Bridge Company.
Seattle, Port Angeles & Western.
Sharpsville.
Shreveport Bridge & Terminal Co.
Sievern & Knoxville.
Sioux City Bridge Company.
Sioux City Terminal.
South Chicago & Southern.
South Dayton.
Southern Illinois & Missouri Bridge Co.
Southern Pacific Electric.
State University.
Stock Yards Terminal Ry. Co. of St. Paul.
Sullivan County.
Sulphur Mines.
Sunday Creek.
Sunset.
Sweet City Bridge Company.
Sweet City Terminal.
Sylvania Central.

T.

Tacoma Eastern.
Tallulah Falls.
Tennessee Central.
Tennessee & Carolina Southern.
Terminal Railroad Assoc'n of St. Louis.
Terminal Railroad of East St. Louis.
Texarkana & Fort Smith.
Texas & New Orleans.
Texas & Pacific.
Texas Mexican.
Texas Midland.
Tidewater Southern.
Toledo & Ohio Central.
Toledo, Peoria & Western.
Toledo, St. Louis & Western.
Toledo, Saginaw & Muskegon.
Toledo Terminal.
Trans-Mississippi Terminal.
Troy Union Railroad.
Tug River & Kentucky.
Tunnel Railroad of St. Louis.
Tylerdale Connecting.

U.

Ulster & Delaware.
Union Depot Co. of Columbus.
Union Depot Company of St. Louis.
Union Freight.
Union Pacific.
Union Railway.
Union Railway & Transit Company (of Illinois).
Union Railroad of Baltimore.
Union Railroad (Pennsylvania).
Union Stock Yards Company of Omaha.
Union Terminal Company of Dallas.
Utah.

V.

Van Buren Bridge Co.
Vermont Valley.
Vicksburg, Shreveport & Pacific.
Virginia Air Line.
Virginia-Carolina.
Virginian.

W.

Wabash.
Washington Southern.
Washington Terminal.
Waterloo Cedar Rapids & Northern.
Waupaca-Green Bay.
Weatherford, Mineral Wells & Northwestern.
Wellston & Jackson Belt.
West Jersey & Seashore.
Western Maryland.
Western Pacific.
Western of Alabama.
West Side Belt.
West Tulsa Belt.
Wheeling & Lake Erie.
Wheeling Terminal.
White & Black River Valley.
White Oak.
Wichita Falls & Northwestern.
Wichita Union Terminal.
Wichita Valley.
Wiggins Ferry Company.
Wilkes-Barre & Scranton.
Williamson & Pond Creek.
Winona Bridge.
Winston-Salem South Bound.
Wood River Branch.
Wyoming & Northwestern.

Y.

Yadkin.
Yazoo & Mississippi Valley.
York Harbor & Beach.

Z.

Zanesville Belt & Terminal.
Zanesville & Western.
Zanesville Terminal.

The Congressional Resolution

President Wilson has applied the pocket veto by failing to sign within ten days the joint resolution hurriedly passed by Congress on June 29 extending the period within which a railroad may be released from federal control, but with a provision designed to prevent the release of a short line unless connecting and competing lines are released at the same

time. The resolution was practically rendered nugatory by the action of the Railroad Administration in releasing a large number of short lines just before it was passed. A number of senators called on the President on July 3 and urged him not to veto the resolution.

Railroad Compensation Contract

The latest draft of the proposed standard contract for use in ordinary cases between the railroads and the Railroad Administration governing the compensation to be paid to the railroad companies under federal control was to be submitted to a meeting of railway executives in New York this week by the law committee which has been representing the roads in the negotiations with the law department of the administration. In advance of its consideration by the executives and its approval by the director general, it is difficult to say as yet how near the negotiations have approached toward a settlement, but the latest drafts that have been made indicate marked progress over earlier copies that have been under consideration.

One of the important points of difference has been the extent to which the government may retain control of the disposition of the amounts paid to the companies as compensation. In the draft of the proposed contract as it stood a few days ago, it was provided that from any of the quarterly installments there may be deducted any amount due by the company on account of expenses arising out of railway operations prior to January 1, 1918, on account of transactions which do not enter into those used in determining the company's standard return, the amount of excess expenditures during federal control for maintenance, as compared with the test period before federal control, or for taxes due from and not paid by the company; also all amounts required to reimburse the United States for the cost of additions and betterments made to the property of the company not justly chargeable to the United States, unless such matters are financed or otherwise taken care of by the company to the satisfaction of the director general. It was provided, however, that the power to deduct additions and betterments shall not be so exercised as to prevent the company from paying out the sums required to support its corporate organization, to keep up sinking funds for the company's debts required by contracts in force December 31, 1917, and for interest on loans issued under federal control and approved by the director general. Provision was also made that such deductions should not be made for additions and betterments which are for war purposes and not for the normal development of the company, or for road extensions. In the event of a difference as to the fact whether additions and betterments are for war purposes or as to whether an addition is a road extension, it was provided that the question may be referred to and determined by the Interstate Commerce Commission.

In an effort to give the company some assurance as to the continuity of its dividends, a paragraph was inserted as follows: "The power provided in this paragraph to deduct the amount due to the company for the cost of additions and betterments not justly chargeable to the United States is further declared to be an emergency power, to be used by the director general only when he finds that no other reasonable means is provided by the company to reimburse the United States, and, as contemplated by the President's proclamation and by the federal control act, it will be the policy of the director general to so use such power of deduction as not to interrupt the regular payment of dividends as heretofore made by the company." It is understood, however, that this has since been further modified for the purpose of merely expressing the policy of the government without tying its hands in the event of an emergency.

The question of interest upon the cost of additions and betterments less retirements in connection therewith and upon the cost of road extensions made to the property of the company during federal control was covered by a provision that the director general shall pay the company a reasonable rate of interest to be fixed by him, and that in fixing such rate he shall take into account not merely the value of money, but all pertinent facts and circumstances, whether the money used was derived from loans or otherwise. As to balances due the companies, an interest rate of 5 per cent was provided. All expenditures made by the director general under federal control for additions, betterments or extensions begun prior to January 1, 1918, are to be charged to the company, according to the draft under consideration, and if the completion of the work is approved or ordered by the director general the company is to be entitled to interest on the cost from the completion of the work, except for work done prior to January 1. Payments for equipment ordered or under consideration by the company prior to January 1, but delivered on or after that date, are to be considered as expenditures made by order or approval of the director general.

All salaries and expenditures incurred by the company during federal control for purposes which relate to the existence and maintenance of the corporation or to properties not taken over, or to negotiations, contracts, valuations, or any business controversy with the government or any branch thereof, not specially authorized by the director general, are to be borne by the company, except that the expense of valuation to the extent considered necessary by the director general to the co-operation of the company in the making of such valuation, is to be charged to operating expenses.

The director general is given the option to be substituted in the place of the company in respect to the benefits and obligations of any contract in relation to operation, providing that a source of supply which the company had acquired to safeguard its own operations shall not be depleted or reduced for use on other transportation systems, except in cases of emergency to be determined by the director general, in which event an accounting shall be made to the company at the fair value.

The director general is to pay or save the company harmless from expenses incident to or growing out of the possession, operation and use of the property, which are enumerated in detail.

Regarding the upkeep of properties, it is provided that the director general shall annually as nearly as practicable, expend and charge to railway operating expenses such sums for the maintenance, repair, renewal, retirement and depreciation of the property as may be requisite in order that it may be returned to the company in substantially as good repair and complete equipment as it was on January 1, and an average annual expenditure equal to that during the test period shall be taken as a full compliance with the foregoing, after making allowance for differences in cost of labor and materials and the amount of property involved.

One section of the proposed contract which has involved considerable difference of opinion between the railroads and the administration is stated as follows: "The company further and expressly accepts the covenants and obligations of the director general in this agreement set out and the rights arising thereunder in full adjustment, settlement, satisfaction and discharge of any and all claims and rights, at law or in equity, which it now has or hereafter can have, otherwise than under this agreement, against the United States, the President, the director general, or any agent or agency of either, for compensation under the constitution and laws of the United States, for the taking of its property, or for the possession, use, control and operation thereof, during federal control, and for any and all loss and damage to its business by reason of the diversion thereof or otherwise which has been or may be caused by said taking or by said possession, control and operation."

The draft also contained a provision that "nothing in this agreement shall be construed as expressing or prejudicing

the future policy of the federal government concerning the ownership, control or regulation of the company, or the method or basis of the capitalization thereof."

Director General McAdoo Studying Western Railroad Conditions

Far western and transcontinental railroad operations are to come in for a greater degree of the attention of the Railroad Administration than they have been receiving, with a view to the more intensive application of the new principles introduced by federal control, as a result of Director General McAdoo's western trip. While the trip was undertaken primarily for the purpose of affording the Director General an opportunity for recuperation after his arduous labors in connection with the reorganization of the railroads and the Liberty Loan campaign, and particularly to enable him to recover from his throat trouble, Mr. McAdoo is extending it into a general inspection trip for the purpose of obtaining a first hand view of western railroad conditions. In the course of his travels he has developed many ideas for possible changes in the routing and handling of traffic to, from and in the Pacific coast and intermountain territory, the terminal situation and other matters, which are to be discussed at a conference called for San Francisco on July 15 with the central western and northwestern regional directors, Hale Holden and R. H. Aishton, the federal managers of the lines in those regions, C. R. Gray, director of the division of operation, and Edward Chambers, director of the division of traffic. These two regions include all the western and transcontinental lines with the exception of those from St. Louis into the southwest. Mr. Gray left Washington several days ago to join Mr. McAdoo and Mr. Chambers left on Tuesday of this week.

Because of the concentration of war traffic in the eastern territory and the acute situation there during the early part of the year, the railroads in that part of the country have been receiving a large share of the attention of the administration and have become more accustomed to the ideas of unified non-competitive railroading than have the western railroads. Also the new federal organization has been in existence for a longer time on the eastern roads, while Mr. McAdoo has had little opportunity to get into touch with the new organization of the western roads since their division into three regions.

Mr. McAdoo left Washington nearly a month ago and while the trip has enabled him to keep away from detail and has eliminated the necessity of devoting time to callers, he has been "on the job" as far as keeping in touch with important matters is concerned and aside from a short period spent in Yosemite Valley a large part of the time has naturally been spent on the trains. The number of telegrams of suggestions and observations which he has sent into the Washington office also indicates that much of the travelling has been on the rear platform and that the director general has kept his eyes open. Many of his telegrams have, therefore, been made the basis of more detailed study and investigations on the part of the staff of the Railroad Administration and the various subjects will be brought up at the conference. Mr. McAdoo planned to cover more railroads during the present week before the conference and also after it and he is expected to return to Washington by about July 25.

Consolidated Classification No. 1

The new consolidated freight classification No.1, on which the Interstate Commerce Commission is to begin hearings throughout the country on August 1, is a book of 597 pages. A description of the classification changes which it includes is given in a statement filed with the commission by the classification committee as follows:

The commission is advised that while the 10 years' specific effort on the part of the carriers to effect a uniformity of classification rules, regulations, descriptions of articles and carload minimum weights resulted in substantial steps in the direction of uniformity, it had not brought a completion of the work at the time the United States Railroad Administration came into control of the operation of the railroads. In fact, only a few months prior thereto a comparison of conditions inaugurated at the commission's request showed that there were in operation more than one thousand instances in which the three territorial freight classifications were non-uniform in the particulars named.

While many of these differences were being rapidly reconciled, there still remained a great volume of non-uniform matter, much of which was of considerable consequence, when the commission inquired into the question of consolidation, and the administration concluded to direct the immediate preparation of this consolidated publication.

The important changes shown in that publication are summarized as follows:

1. Carload minimum weights are increased to the higher figures as maintained in one or two of the territories except where, in the opinion of the committee appointed to prepare a consolidated classification, such weights have been on an unreasonably high basis and are reduced, it being believed that neither existing transportation conditions nor those which may reasonably be expected during many future years warrant continuance of minimum weights resulting from competition or other influences.
2. Where minimum weights are reduced to fit actual loading conditions on light and bulky articles, ratings have been correspondingly increased.
3. Ratings are revised where minimum weights for articles in less-than-carload quantities are waived, as, for instance, on certain large agricultural implements and vehicles.
4. Increases are made in certain instances in less-than-carload ratings where less carload and carload ratings are substituted on commodities heretofore handled upon the any-quantity basis.
5. Revisions of ratings are made where a careful comparison of the ratings in the three territories show that articles have been incorrectly or illogically rated.
6. The bringing into effect of changes that have been under investigation, based upon changed commercial conditions with which the classification committees failed to keep pace.
7. The removal of cause of complaint, by increasing one group and reducing another group of related articles or containers, thereby minimizing or removing discrimination.
8. The revision of descriptions to render the terms definite and conclusive, thereby removing opportunity for undue advantage or misrepresentation.
9. The recognition of a proper relationship of containers.
10. The similar application of a given principle to different commodities under similar circumstances and conditions.

In the endeavor to work out changes without unreasonable disturbance of commercial conditions the territorial classification committees had previously docketed many of these changes, and it should be borne in mind that prior to the appointment of the special committee many of the changes were the subject of public discussion in the respective classification committees without publication being reached; notably, agricultural implements, cereal foods, grain and grain products, furniture, glass, iron or steel articles, petroleum, stoves and vehicles are among the many important items thus affected.

Many of these changes, due to the necessary reconciliation of differing conditions in the several territories, represent adjustments that have been worked out in whole or in part to the general satisfaction of interested shippers; in other cases it has been found impossible for the terri-

torial committees to satisfy shippers with a uniform adjustment; in still other cases the adjustments believed to be proper must be brought forward at some time in the future when further opportunity has been afforded for an examination of conditions and the submission in classification dockets of changes that may be necessary.

Perhaps the question of greatest consequence that must necessarily be brought to an issue in this Consolidated Freight Classification is that of specific carload mixtures vs. mixtures by rule; further important changes are necessarily involved in the revision of other rules. A change of far-reaching consequence is the complete substitution, as between the East and West, of the application of less-than-carload and carload rates where in one territory there has been an any-quantity rating on an article moving in carload quantities that in the other territory was given a carload rating; such important articles of commerce as butter, eggs, cheese, drugs, chemicals, hardware and alcoholic liquors are involved in this change.

The following shows the number of increases and reductions in ratings and minimums: Number of increases in ratings, 3,857; number of reductions in ratings, 1,840; number of carload ratings eliminated, 141; number of increases in minimum weights, 1,135; number of reductions in minimum weights, 363; number of carload minimum weights to which Rule 34 is added, subjecting them to sliding scale of minimum weights, 220; number of additions, 3,234; total number of changes, 10,790.

There is probably no source of railroad revenue wherein the effort to obtain reductions of charges has to be watched so carefully as in the matter of classification. This for the reason that classification conditions and terminology are designed to be expressive of commercial conditions and terms and the constant change in commerce with the interrelation and competition of commodities makes it necessary to constantly guard against the losses that result from indifferent descriptions or would necessarily result where a lowering of the average rate is effected by lowering the ratings. The effort of the classification committees to guard against this erosion by shoring up the structure here and there may create an impression of design to accomplish increases in revenue by increasing classification ratings, but in fact it is the effort to maintain the principle of correct relationship which is the essence of classification making.

It is the firm belief of the classification committee representatives that these changes in ratings and minimum carload weights represent just and reasonable revisions of such items in the three classifications, and the effect, aside from the increases, which necessarily must result from such a general revision, will be to concede reductions in certain cases and remove undue advantage which shippers and commodities have been obtaining in other instances. It is in this belief in the essential justice of the changes proposed that this revision is respectfully submitted.

In presenting a petition for permission to file this classification under these extraordinary circumstances it is not possible to present the justification for the changes in detail, but if it shall be the pleasure of the commission to place the classification upon the docket for public hearing we are confident that full justification for the changes will be made.

To the end that the public may be fully advised of the changes, 10,919 copies of the proposed classification have been mailed direct to the home office of all shippers, state railroad commissions and shippers' organizations who are upon the mailing lists of the several territorial classification committees, and in addition to this number, copies have been sent to every carrier participating in the three classifications, embracing practically every carrier in the United States. It is believed that with this wide and comprehensive distribution to those interested in freight classifications in Canada and every state and territory in the United States, there will have been given a much broader publicity than is possible in ordinary procedure before the Commission; and to a corresponding degree we believe the way will have been prepared for any early docketing, hearing and determination of this petition.

Rule No. 10

With respect to proposed changes in rules, there is probably most interest in Rule 10. Apparently it is the only rule in the Consolidated Classification that can be identified by number. It reads as follows in the proposed Consolidated Classification:

Section 1. Except as otherwise provided, when a number of different articles, for which carload ratings or rates are provided, are shipped at one time by one consignor to one consignee and destination, in a carload (see Rule 14), they will be charged at the carload rate applicable to the highest classed or rated article, and the carload minimum weight will be the highest provided for any of the articles in the carload.

Section 2. When the aggregate charge upon the entire shipment is made lower by considering the articles as if they were divided into two or more separate carloads, the shipment will be charged accordingly; charges on each separate carload will be based upon the carload rate applicable to the highest classed or rated article therein and the highest carload minimum weight provided for any of the articles therein.

Section 3. When the aggregate charge upon the entire shipment is less on basis of carload rate and minimum carload weight (actual or authorized estimated weight to be charged for if in excess of the minimum weight) for one or more of the articles and on basis of actual or authorized estimated weight at less-than-carload rate or rates for the other article or articles, the shipment will be charged for accordingly.

Note.—Rule 10 will not apply upon articles for which ratings or rates are not provided, nor upon shipments of live stock.
Rule 24 will not apply to mixed carload shipments when any article in the carload would be subject to Rule 34 if shipped in straight carloads.
Packages containing articles of more than one class will be rated in accordance with the terms of Rule 12, Section 3.

Valuation Expenses

"Whatever expenses may be necessarily incurred by carriers" in making the valuation which is now being made by the Interstate Commerce Commission may be charged to operating expenses under federal control, according to P. S. & A. Circular No. 10 issued by C. A. Prouty, director of the Division of Public Service and Accounting on June 29. The director general will not pay, however, the circular stated, expenses incurred to test the accuracy of this valuation or to test the same before the commission or the courts. This means that a considerable part of the expenses which have been incurred by the railroads in connection with the valuation will have to be borne by the corporation out of the amounts which they receive as compensation from the government. The circular states that this valuation is of great importance to the corporation and it is entirely proper that the corporation should assure itself of its correctness, but that it is also manifest that the corporation and not the director general must determine the manner and extent of all this and that it should decide the amount of the outlay necessary to test such correctness and pay it.

In the application of this rule the following classes of expenditure will be borne by the director general as an operating cost.

1. Whatever is necessary to comply with the valuation orders of the Interstate Commerce Commission.
2. Whatever is necessary to prepare and furnish the in-

formation required by the Bureau of Valuation. This includes requirements by its employees who are conducting the valuation in the several districts.

3. Whatever may be necessary to co-operate in the field by the furnishing of men to point out the property of the company, to assist in the taking of the inventory, etc.

4. For computers when, and only when, they work with the computers of the Bureau of Valuation or under its direction or on preparation of data required by the Bureau of Valuation.

5. For land appraisers provided they proceed in the same general manner as the appraisers of the commission in the collection of facts and opinions bearing upon the value of the lands to be appraised, and provided further that they will after such information is accumulated exhibit the same to the employees of the Bureau of Valuation in an effort to agree upon reasonable values. Expenses for expert opinions will not in any case be paid for.

6. When the field work of the Bureau of Valuation in any branch has been completed no further outlay by the carrier for account of the director general in respect of that branch will be paid for and charged to federal operation without special authority obtained from this office.

The above rules will apply as of July 1, 1918, and thereafter, leaving open for further consideration and instruction the six months then already elapsed.

Pullman Company Operating Department Taken Over

The Railroad Administration on July 3 cleared up the uncertainty which has existed as to the status of the Pullman Company under federal control by issuing Supplement No. 2 to General Order No. 27, the order increasing wages of railway employees, providing that the terms and conditions of the order will apply to the Pullman Company operating department, except that on account of the peculiar character of the employment of conductors, porters and maids, in that provision is made for rest and sleep while actually on duty, it is impracticable to apply a basic eight-hour day to such service. It is therefore ordered that with respect to conductors, porters and maids, the increases shall be upon the basis shown in Section A of Article Two relative to "monthly wages"; but Article Three relative to the basic eight hour day will not be applicable thereto.

It is estimated that the increase in wages to the operating department employees of the company will amount to about $2,750,000 a year. The commission has required the company to make a report of the affairs of the operating department, which are, therefore, required to be kept separate from those of the manufacturing department.

Universal Mileage Scrip

The Railroad Administration has announced that there will be placed on sale on or about August 1 a universal mileage scrip book at the basic rate of three cents a mile, each coupon of which will represent the value of three cents and can be used for the payment of sleeping and dining car charges and transportation of excess baggage, as well as transportation charges, on all trains on railroads under government control. The scrip books will be good for bearer and will contain coupons for 1,000 miles. They will, therefore, be sold for $30, no reduction being made in accordance with the former practice as to mileage books, but they are expected to serve the convenience of many people who have to make short trips on short notice, by relieving them of the necessity of purchasing tickets in advance. They are, therefore, expected to relieve the pressure on ticket agencies at busy centers. It will be necessary to have the war tax collected by conductors at the time of the presentation of the mileage scrip because the rate of war tax is different on passage tickets and Pullman tickets. For the longer trips it is not expected that the mileage books will be used on trains because the mileage must be collected by each separate conductor and the books will carry a notation explaining that tickets in many cases may be purchased for a slightly lower cost than the mileage rates because short line fares will be met by longer lines to some extent.

Adjustment of Labor Differences

In Circular No. 39 the director general orders that to preserve uniformity of application of decisions affecting labor matters, no agreement should be reached between officers and employees of any railroad to adjust their differences in any other manner than that prescribed in Orders 13 and 29, and by other orders hereafter issued.

Order No. 13 created Railroad Board of Adjustment No. 1 to which all disputes between railway employees, members of the train service brotherhoods, and the railroads, that cannot be satisfactorily adjusted, are to be referred for investigation and disposition. Order No. 29 creating Railroad Board of Adjustment No. 2 carries with it a like assignment of duties as to mechanical department employees. Where controversies are not amicably adjusted and where they do not fall within the provisions of General Orders 13 and 29, they are to be referred to the director, Division of Labor.

The circular was issued because attention had been called to an arbitration held by agreement between the employees and officers of a certain railroad to adjust matters in controversy in a manner different than that prescribed.

Women to Be Trained for Ticket Sellers

Because of the need for skilled ticket sellers and the difficulty of obtaining enough trained men, the Railroad Administration has opened schools in several sections of the country for training women as well as men to fill these positions. The present force of trained men ticket sellers will be retained whenever possible because of the expert character of their work, but it has been found necessary to supplement their activities with women. This is due partially to the increase of traffic and partially to the loss of men to the Army and Navy.

Advertisements have been inserted in the newspapers announcing the opening of an agency for the instruction of men and women who wish to engage in the transportation service and stating that special instruction will be given in the ticket agency branch, including handling the public, sale of tickets, routes, fares, and accounting. The course will consume about two months and from two to three classes will be held daily, morning, afternoon and evening. A salary of $50 a month will be paid to those who are accepted in the agency and who attend any two classes and $25 a month will be paid to those who attend any one class. For those who successfully complete the course, positions will be arranged and when thoroughly trained, women ticket sellers will be paid the same salaries as men doing the same work. It was stated that already enough applications had been received to fill the schools for the present. After a preliminary training of from one to two months the women who show aptitude will be given the work of actually selling the simpler forms of tickets and gradually will be worked into the sale of more complicated forms.

Already some women have been employed in the various consolidated ticket offices, particularly where annexes have been established for the handling of government orders and reduced fare tickets for soldiers and sailors. A new practice was established last week in a number of the consolidated ticket offices, which will give an opportunity for the introduction of women into the work of ticket selling before they become accustomed to the more complicated forms of tickets. Special windows and clerks were established for the sale of the simple tickets used between large cities, which constitute the bulk of the sales at many points. At the Washington

office these tickets are for trips to New York, Philadelphia, Wilmington and Baltimore, and where a clerk handles only one form of ticket for which the rate is well known, the crowds of ticket purchasers can be handled very rapidly and with only the delay incident to making change. Passengers who desire to purchase tickets which require more work are, therefore, not allowed to delay those who want a simple ticket in a hurry.

Committee on Standards for Locomotives and Cars

A permanent committee on standards for locomotives and cars has been created by the Railroad Administration, with Frank McManamy, assistant director, mechanical department of the division of operation, as chairman, to succeed the car and locomotive standardization committee, which has had charge of the development of the designs for the standard cars and locomotives recently ordered by the Railroad Administration. The new committee, which includes several members of the old committee, will have the function of following up the standardization plans for the purpose of recommending any changes which may be found necessary in the standards already adopted as to the cars, locomotives or the specialties used thereon, or of developing additional standards. Forms have been prepared on which a record will be kept of the performance of the standard cars and locomotives for the purpose of recording any failures or any defects which may be developed in operation so that the records may be available when any additional orders for equipment are to be placed. The members of the committee, in addition to Mr. McManamy, are as follows: H. T. Bentley, Chicago & North Western; H. Bartlett, Boston & Maine; J. T. Carroll, Baltimore & Ohio; C. E. Fuller, Union Pacific; F. F. Gaines, Central of Georgia; A. W. Gibbs, Pennsylvania Railroad, eastern lines; H. L. Ingersoll, New York Central; J. E. O'Brien, Missouri Pacific; John Purcell, Atchison, Topeka & Santa Fe; F. P. Pfahler, mechanical engineer, locomotive section, Railroad Administration; J. W. Small, Seaboard Air Line; J. J. Tatum, Railroad Administration; and W. H. Wilson, Northern Pacific. E. A. Woodworth, who was assistant to Mr. Bentley as mechanical assistant in the division of operation, has been appointed secretary of the committee, which will hold a meeting at Washington on July 16, and thereafter monthly on the third Tuesday of each month.

Supervisors of Equipment

A number of the district inspectors of the Interstate Commerce Commission's Bureau of Locomotive Inspection, have been transferred to the Locomotive Section of the Railroad Administration under the direction of Frank McManamy, whose title has recently been changed from manager, Locomotive Section, to assistant director, mechanical department, of the Division of Operation, and have been appointed supervisors of equipment. These supervisors of equipment have been distributed throughout the country and travel from road to road on orders from the Washington office, checking up the work of railroad shops engaged on the repair of locomotives and cars to see whether the shops are adequately equipped for their work, whether the work is being properly performed and whether the proper output is being obtained. A considerable portion of their time has been taken up recently in efforts to prevent strikes among the shop employees.

The list of supervisors of equipment who have been engaged in this work since some time in March is as follows: John G. Adair, Joe Beene, Harvey Boltwood, George N. DeGuire, George E. Dougherty, John M. Hall, John P. Kane, William Martin, John McManamy, Charles J. Scudder, John Wintersteen, and R. H. Collins, assistant supervisor of equipment.

Rules for Delivery of Locomotives

The following rules for the purpose of expediting the delivery of new locomotives from the builders and also of facilitating the movement of locomotives to and from foreign line shops for repairs will be issued by Regional Director A. H. Smith, at the instance of Frank McManamy, mechanical assistant to the director of the division of operation:

Builders will be required to put the locomotive in condition for service before leaving the plant, and new road locomotives, except oil burners moving over lines which are not equipped to provide fuel, will be delivered under steam and be used in hauling a train when practicable. They will be accompanied by a messenger furnished by the builders, whose duties will be to see that bearings run cool and that the machinery is properly cared for until the locomotive is delivered.

Road locomotives repaired at foreign line shops will be returned to the home line under steam, hauling a train when practicable.

Road locomotives sent to foreign line shops for repairs will be sent under steam when their condition will permit, hauling a train when practicable.

Each road will give to such locomotives the same care and attention they give their own power and will be held responsible for their condition whether delivered to connections or home line.

The use of such locomotives when moving under steam will be accepted as full payment for transportation charges.

Such locomotives will be given preferred movement and will not be held at terminals except for rest for crews, and necessary repairs. Switching locomotives and other light locomotives not suitable for service on delivering line, and oil burners passing over lines which are not equipped to provide fuel, may be handled dead in train in the usual way.

Car Repairs

At the instance of Frank McManamy, mechanical assistant to the director, division of operation, Regional Directors are issuing the following instructions to all railroads under federal control:

Each railroad is responsible for the condition of all cars on its lines, and must give to all equal care as to inspection and repairs. When material standard to the car is not readily obtainable, suitable material of equal strength that is not standard to the car may be used, and the use of such non-standard material will not constitute wrong repairs. When using such material, changes that will prevent standard material from being used in future repairs should be avoided as far as practicable. Railroads are responsible for damage done by unfair usage, derailment or accident to any car they handle, and must make proper repairs at their own expense.

Purchasing Committee Appoints Fuel Distributor

B. P. Phillippe, assistant to the purchasing agent of the Pennsylvania Railroad in charge of the purchase of fuel and building materials, has been appointed fuel distributor of the Central Advisory Purchasing Committee, with office in Washington, having been detailed until further orders to handle matters pertaining to coal distribution and contracts for the Railroad Administration. In this office Mr. Phillippe is the point of contact between the Railroad Administration and the Fuel Administration and to him are referred all matters pertaining to the relations of the railroads with the Fuel Administration regarding railroad fuel supply. While railroads in ordinary instances under the supervision of the regional purchasing committees make their own contracts for coal with the producers, where they are unable to do so requisitions are made through the Fuel Administration, which has appointed W. A. Marsh, formerly general sales manager of the Pittsburgh Coal Company, as manager of railroad fuel

distribution. If a railroad desires assistance in producing its coal supply, application is made in the first instance to the regional purchasing committee of the region in which the road is located, which refers the matter to the Central Advisory Purchasing Committee, and the fuel distributor of the committee deals direct with the Fuel Administration through its fuel distributor. Mr. Phillippe also acts as the representative of the Central Advisory Purchasing Committee on the building materials section of the priorities committee of the War Industries Board.

Simplified Bases for Apportioning Interline Passenger Revenues

General Order No. 32 issued on June 29, provides that, effective with the settlement of interline passenger accounts for the month of June, 1918, and thereafter, during the period of federal control, the following rules and regulations shall govern the apportionment of revenues from the sale of tickets, collection of excess baggage revenues, and other analogous revenues, derived from interline passenger service, by one road under federal control to other roads under such control:

(1) Interline passenger revenue shall be apportioned to interested carriers under federal control by the initial carrier on bases of mileage applying via route over which the service is performed.

(2) Each selling carrier shall determine monthly:

(*a*) The total passengers carried one mile separately for each carrier over whose line tickets are sold.

(*b*) The total revenue applicable to the total passengers carried one mile, as determined by *a*.

(*c*) The average revenue per passenger per mile by dividing the total revenue (*b*) by the total passengers carried one mile (*a*); such average to be extended to four points beyond the decimal.

(*d*) The revenue accruing to each carrier by multiplying the passengers carried one mile for each carrier (*a*) by the average revenue per passenger per mile (*c*).

(3) The revenues derived from the various classes of traffic, such as mileage and scrip exchange passage tickets, excess train fare tickets or coupons, etc., which are based upon rates other than three cents a mile, shall be eliminated from the regular sales and apportioned separately on the passengers-carried-one-mile basis. This should also be done in the case of special excursion, military or other traffic interchanged between two or more carriers where, if included, it would serve to distort the average revenue per passenger per mile that would obtain for other carriers interested in the distribution of the entire sales.

(4) Excess baggage revenue shall be divided on the same general basis.

(5) A carrier which, on and after June 10, 1918, may have a standard rate of fare in excess of three cents a mile, shall be allowed, in the apportionment of revenue on interline tickets, a constructive mileage; such constructive mileage shall be based on the ratio that the excess rate bears to the standard rate of three cents a mile. Carriers should not claim constructive mileage when fares to be divided are not made a combination of the local fares based on the higher rate per mile. Revenue derived from such traffic should be apportioned as provided in paragraph 3.

(6) The selling carrier shall be held responsible for the correctness of rates and the collection of the proper revenues derived therefrom.

(7) The initial or reporting carrier shall be held reponsible for the prompt and proper reporting and distribution of interline revenues collected by it in the manner herein prescribed. Claims should be made for unreported tickets. Claims for substantial errors in apportionment, due to the use of erroneous mileage or erroneous average revenue per passenger per mile, shall, if correct, be accepted and adjusted in reports for the subsequent month. Claims for arithmetical errors, such as errors in calculation, addition, etc., which affect a single carrier's proportion to the extent of $5 in any one item, shall likewise be made, and if correct, adjusted; no adjustments shall be made for such errors under $5.

(8) Land grant revenues and revenues affected by land grant equalizations, shall, until otherwise ordered, be reported and apportioned separately on bases heretofore applicable.

(9) Arbitraries on account of water transfers, bridge tolls, omnibus and baggage transfers and other similar arbitraries heretofore considered in the division of interline fares, shall be allowed to the carrier to which such arbitraries accrue. Proportions accruing to carriers not under federal control, including boat and stage lines, etc., shall also be determined and allowed on regular bases heretofore in effect, and reported direct to such lines; such arbitraries and proportions shall be deducted from the gross revenue and the remainder shall be used in establishing the average revenue per passenger per mile for apportionment of revenues to carriers under federal control.

(10) Interline passenger revenues shall be reported to interested carriers in such manner and on such forms as may be prescribed by the Director of Public Service and Accounting, in instructions to be issued by him, which instructions shall be complied with. For the present, the standard Association form of blanks may be used.

(11) The methods herein prescribed for apportioning interline passenger revenues should be extended to carriers not under federal control as far as practicable; therefore, should carriers not under such control desire to avail themselves of the simplified bases for apportioning interline passenger revenues, as herein prescribed, in conjunction with carriers under such control, arrangements may be made between such interested carriers for the extension of such methods.

Interpretation of Accounting Order

The Division of Public Service and Accounting has issued the following interpretation of General Order No. 31, in reply to questions as to whether per diem reports, charges, credits, and collections, which accrued prior to July 1, 1918, should be discontinued:

The order contemplates that per diem reports, charges, credits, collections, reclaims, and all claims in reference to per diem other than those due to arithmetical errors, up to and including June 30, 1918, shall be continued as heretofore and that the provisions of the order relate only to accruals on and after July 1, 1918.

Accounts Not to Be Scrambled

Although in several instances railroad systems have been divided or combined for purposes of operation, in connection with the appointment of federal managers, the accounting of the roads is not to be similarly scrambled or unscrambled, according to Circular No. 11 issued by the Division of Public Service and Accounting, which states that the division and combination of railroads will produce no effect upon the accounting organization or personnel of those railroads, which shall remain and act exactly as in the past until instructions are issued. This will preserve to a considerable extent the continuity of the accounts of the individual railroads as they have been handled in the past.

Appointments in the Division of Operation

The Division of Operation in Circular No. 11 makes formal announcement of the following appointments: W.

T. Tyler, senior assistant director; J. H. Keefe, assistant director, office; Frank McManamy, assistant director, mechanical department; and F. C. Wright, assistant director, marine department.

Track Scale Tests

The division of operation has issued the following circular regarding track scale tests:

The duly authorized representatives of the Bureau of Standards, Department of Commerce, with the scale-testing equipment, test weights and testing apparatus of the Bureau of Standards, shall have access to master track scales, track and other scales, and to test cars, owned by the railroads, for the purpose of testing scales, and calibrating test cars in order that the Bureau of Standards may obtain all necessary data and information upon which to reach a proper conclusion as to suitable specifications and tolerances for the various classes of scales and weighing devices when under test and when in practical operation, and as to suitable methods of testing scales and calibrating scale test cars and master track scales.

All movements of the scale-testing equipments, test weights and testing apparatus of the Bureau of Standards, with authorized attendants, made for the purpose of performing tests or calibrations in accordance with the terms of this order, shall be made free of charge by the railroads upon the request of representatives of the bureau on presentation of authorized credentials.

Reports of these tests and calibrations with recommendations shall be made by the Bureau of Standards to the interested railroads and regional directors, currently as the tests are made.

L. C. L. Embargoes

The car service section in a bulletin states that attention has been called to frequent embargoes covering l. c. l. shipments, which apply against certain transfer stations and that embargoes of this kind are confusing as foreign line representatives are not ordinarily in position to know the loading or transfer schedules of the road laying the embargo, and, as a consequence, cannot intelligently apply them.

The bulletin says that l. c. l. embargoes should be specific. They should cover certain defined territories or particular gateways. Roads are directed to have their l. c. l. embargoes now in effect carefully checked and to see that proper amendments are made; also to arrange to have future embargoes of this character handled in accordance with these instructions as far as practicable.

Cars for Company Material

The car service section has issued a circular directing that the practice of railroads delivering each other empty cars for return loading of company material, other than fuel, be discontinued. Until further notice, each railroad must take care of company material for all railroads in the same manner as it takes care of its own and arrange the same preference in car supply. In cases where the car supply is not sufficient to move material currently, roads will furnish Car Service Section full particulars.

Shop Men's Wages Up to Director General

The Board of Railroad Wages and Working Conditions, which has been conducting hearings and a general investigation into complaints made by the organizations of shop employees against the inadequacy of the increase in wages awarded them in the director general's general wage order No. 27, has forwarded its report and recommendations with respect to the wages and working conditions for mechanical shop crafts to the director general at San Francisco for his consideration and determination.

Shippers Given Representation on Traffic Committees

Shippers are to be given representation on the regional and district freight traffic committees of the Railroad Administration that are to hear and make recommendations on complaints arising from the general rate advance order which went into effect on June 25 and requests for readjustments to preserve former relationships. Where the committee consists of five members two will be shippers, and where it consists of three one will be a shipper, the others being railroad traffic officials. This plan has been worked out by the divisions of traffic and of public service and accounting in conference with representatives of the National Industrial Traffic League, who were called to Washington to assist in making the selection. In addition George H. Atkins, manager of the Shreveport, La., Chamber of Commerce, has been appointed a traffic assistant in the division of public service and accounting, to which the complaints and protests in connection with the rate order have been referred. These communications, numbering between 2,000 and 3,000, are being distributed among the regional and district committees for consideration in accordance with the director general's promise to restore any important relationships which may be for the time being disturbed. The state railroad commissioners had asked for a somewhat similar representation, but it was decided that such a plan would be inconsistent with their proper functions.

Accounting for Back Payments of Wage Increase

The Division of Public Service and Accounting has issued a circular directing that the amounts due employees for back pay in accordance with General Order No. 27, or supplements thereto, for the five months ended May 31, shall be accounted for in the following manner:

The entire amount shall, unless previously taken into the accounts, be included in the accounts for the month of June, distributed as follows:

First—There shall be determined the amount chargeable to additions and betterments, and the amount distributed to the appropriate accounts.

Second—There shall be determined the amounts collectible from individuals and companies (except for use of joint facilities by roads under federal control) and deficiency bills shall be rendered therefor.

Third—The amount representing operating expenses shall be divided among appropriate operating expense sub-primary accounts in detail by the use of one of the two following methods:

(a) By distributing the increases shown by the supplemental payrolls for each month on the basis of the distribution of the original roll for the same month, including in each primary account the amount of the payroll increase properly applicable thereto.

(b) By aggregating the operating expense payroll charges for the five months ended May 31, 1918, separately by general accounts, and apportioning the wage increases applicable to each general expense account among the appropriate primary accounts for that period on the basis of the distribution determined by the five months' payroll compilation.

If deficiency bills for increased pay rendered to individuals and companies cannot be collected, the amount thereof shall be charged to an account styled, "Back pay bills due from individuals and companies uncollectible," and the balance therein shall be charged to the income from federal operations.

In the event that it is not practicable to determine the actual figures for inclusion in the accounts for the month of June, 1918, an estimate of the amount chargeable to the various operating expense accounts shall be made and included in the accounts and in the statement of operating expenses for that month. Subsequently, when the actual amounts are de-

termined, adjustment shall be made to the correct figures in the accounts of the month in which the actual figures are determined.

Class I carriers, in rendering the monthly income account statement for June, 1918, shall attach thereto a statement showing the amount of back pay for the months of January to May, 1918, inclusive, included in each of the general operating accounts enumerated on the monthly income account statement.

Express and Mail Section

F. S. Holbrook, vice-president of Wells, Fargo & Co., has been appointed manager of the Express and Mail Section of the traffic division of the Railroad Administration, with office at Washington, in charge of relations between the administration and the consolidated express company and of matters concerning the handling of mails by the carriers under federal control including railway mail. The committee on Railway Mail Transportation, which is studying the question of handling railway mail, will report to Mr. Holbrook until its report is completed.

Agricultural Section

The Division of Traffic has established a department to be known as the Agricultural Section, whose particular duty will be to look after the relations between the railroads and the Department of Agriculture, in order to give all possible assistance to the general agricultural development of the country. J. L. Edwards of Atlanta, Ga., who has had long experience in agricultural development work, has been appointed manager. It is expected that through the assignment of Mr. Edwards to this particular work, the encouragement and extension of agriculture, especially throughout the South and West will be actively stimulated in the relation of transportation to this most important industry.

* * *

A. P. Humburg, commerce attorney of the Illinois Central, has been appointed assistant to R. Walton Moore, assistant general counsel of the Railroad Administration, in charge of rate litigation.

Saving Car Mileage in Order to Haul More Freight

Close Attention to Routing in the West Is Overcoming the Insufficiency of Railroad Equipment

IT BECOMES INCREASINGLY evident every day that adequate transportation facilities are essential to the successful prosecution of the war. The unprecedented trials of the roads last winter and the prospect of insufficient additions to their car and locomotive equipment this year have caused many to fear a breakdown of the railroad system under the strain of the storms and severe temperatures of the coming winter. A campaign recently inaugurated by R. H. Aishton, while regional director of all western lines, is directed toward the relief of this situation. Under his direction, conservation of car mileage by the short-routing of freight is producing gratifying results and promises to play an important part in increasing the capacity of the railways. All legal restrictions which formerly forced individual lines to operate independently have been swept aside by the Railroad Control Act, and close co-operation between carriers in the matter of routing shipments has become possible. Recent reports from various western points for brief periods show a total of 4,644 carloads rerouted, which effected a saving of 1,235,664 loaded car-miles. When reports are received for all freight rerouted in the West, the saving in car mileage will undoubtedly reach a much larger figure.

The right to reroute shipments was acquired by the railroads when the director-general issued his Order No. 1, reading in part as follows: "The designation of routes by shippers is to be disregarded when speed and efficiency of transportation may be thus promoted." The authority conveyed by this order was used quite generally by railroads in January and February to divert freight from congested terminals to avoid embargoed routes. The first step taken in the West to apply the principle to all traffic was the appointment of a freight routing committee by the Central district railroad presidents on December 31, 1917. This committee, of which J. G. Woodworth, vice president of the Northern Pacific, was chairman, issued a circular on January 4, 1918, which contained general instructions for the routing of freight and the following specific provisions:

1. Distance shall be the original measure and, following the definition prescribed by the Interstate Commerce Commission, any route representing a distance of more than 116 per cent of the shortest available route shall be considered impractical. Differences in distances of 25 miles or less may be disregarded.

2. Exceptions to the foregoing rule will be considered justifiable:

(a) When by reason of grades or other operating conditions the longer route is more economical.

(b) When congestion or blockade conditions may be thus avoided.

(c) When important considerations of public policy demand the use of another route.

District committees were appointed at St. Paul, Minn.; Portland, Ore.; San Francisco, Cal.; Houston, Tex.; Denver, Colo., and Kansas City, Mo., to assist Mr. Woodworth's committee in promoting short routing. Following a study of the situation by these committees, additional traffic was turned to short routes under their direction and through the independent action of lines in the West. Those in charge of the work, however, finally decided that better results would be obtained by controlling routing directly through instructions from the office of the regional director, and accordingly an experienced traffic officer was assigned to the work of supervising routing throughout western territory. The conclusion was also reached that no hard and fast rules should be adopted to govern this work and no routes provided by tariffs should be closed, but that additional routes should be provided where necessary and where traffic was diverted by carriers to secure the benefit of short routes, rates via the routes specified by shippers would be protected. This provision for the protection of rates was officially announced in the regional directors' circular No. 101 of May 7, 1918.

In order to secure immediate results the regional director and his staff introduced a plan for direct supervision of traffic at important terminals in the West under which freight originating at, and moving through, those points could be supervised and rerouted where necessary to secure the benefits of reduced car mileage and to avoid the unnecessary use of other terminals. This plan is now in effect at Minnesota Transfer, Minn.; St. Paul, Minneapolis and Duluth; Superior, Wis.; Kansas City, Mo.; El Paso, Tex.; Peoria, Ill., Pekin, and in the Chicago switching district.

At Minnesota Transfer carload freight billing for all incoming trains is checked before the trains are broken up

and switched out, and shipments are rerouted where necessary under the direction of a traffic officer of experience assigned to the work at that point. By rerouting traffic immediately upon the arrival of trains all unnecessary switching is avoided. Short routes to principal points from Minnesota Transfer have been selected to which the traffic is diverted. The original and corrected routing of all rerouted shipments and the reduction in haul effected are recorded. When there is a regular movement of traffic between the points covered in these records instructions are sent to the points of origin to insure proper routing on future shipments. The plan was put into effect at Minnesota Transfer on May 25, and for a period of 35 days, namely, until June 28 inclusive, 1,307 carloads were rerouted with a total reduction in loaded car-miles of 145,300.

At El Paso, Texas, the heavy traffic formerly moving via the Southern Pacific Lines through El Paso to points in Texas has been rerouted to advantage. From March 1 to June 4, inclusive, 681 carloads were rerouted at El Paso, with a total reduction of 160,230 loaded car miles.

The plan for direct routing of traffic was put into effect at Kansas City, Mo., on June 17. Between that time and June 26 242 cars were rerouted with a saving in car mileage of 48,395. At Peoria, Ill., 452 carloads were rerouted between June 11 and June 28, inclusive, with a total reduction in the number of car miles of 46,739. The plan was inaugurated at Pekin, Ill., on June 23, and in the first four days 14 carloads were rerouted with a total reduction in car mileage of 936. At Ft. Dodge, Iowa, the first two weeks of the operation of the plan resulted in the rerouting of 45 cars with a saving of 5,079 loaded car miles.

A marked reduction in car mileage has been effected by controlling the routing of wheat originating on the Oregon-Washington Railroad & Navigation Company and moving to Minneapolis, Minn. This traffic was formerly routed via Huntington, Ore., over the Oregon Short Line and the Union Pacific to Omaha, Neb., and from there over the Chicago, St. Paul, Minneapolis & Omaha to Minneapolis. From April 24 to June 11, 1,093 carloads were rerouted via Marengo, Wash., over the Chicago, Milwaukee & St. Paul via Plummer, Idaho, over the same road, and via Spokane, Wash., over the Great Northern, with a total reduction in loaded car mileage of 452,335.

A considerable saving in car mileage has also been achieved through the control of the movement of fruit and vegetables from southern California. This traffic formerly moved from points on the Southern Pacific through Roseville, to Ogden, Utah, and eastern destinations. It is now routed via Colton, Cal., over the Los Angeles and Salt Lake, reducing the haul to Ogden 465 miles per car. During April and May, 810 carloads were rerouted with the total reduction in loaded car miles of 376,650.

The rerouting plan has been introduced at a number of other points in the West, for which statistics are not yet available.

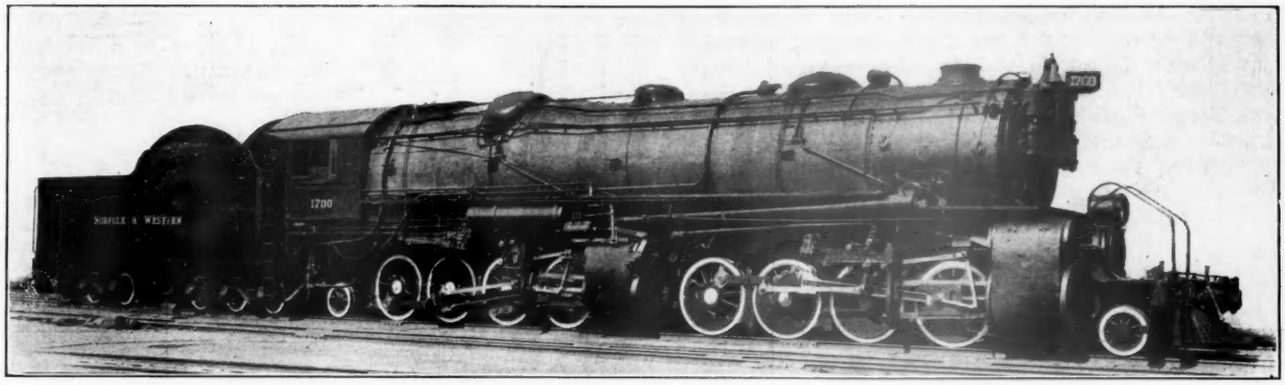
On June 24, the plan for short-routing all traffic originating in, and passing through, the Chicago switching district for western destinations was put into effect. Preferred routes to the more important railroad centers were designated and the use of congested gateways avoided wherever possible. For instance, the instructions provide that traffic for Kansas City and points West must not be routed through St. Louis, while traffic for Duluth, Minn., and Superior, Wis., must not be routed through Minnesota Transfer. The Chicago & North Western, the Chicago, Milwaukee & St. Paul, the Chicago Great Western, the Chicago, Burlington & Quincy and the Minneapolis, St. Paul & Sault Ste. Marie were recommended as routes to St. Paul, Minneapolis, Minnesota Transfer and points beyond, in preference to the Chicago, Rock Island & Pacific, the Illinois Central (Albert Lea), Minneapolis & St. Louis, or the Chicago & Alton (Peoria), Minneapolis & St. Louis. For traffic moving to Sioux City, Iowa, the Illinois Central, the St. Paul and the North Western were specified as routes which should be used in preference to the Burlington, the Chicago, St. Paul, Minneapolis & Omaha or the Great Northern. The Chicago & Alton, the Wabash, the Chicago & Eastern Illinois and the Illinois Central were designated as preferred routes to St. Louis, Mo.

To insure the use of the car ferry lines to the extent necessary to afford a maximum tonnage for all boats and to avoid the use of the Chicago gateway, where there are more direct routes across Lake Michigan, a comprehensive plan for the routing and control of this traffic was introduced on July 1. Under the scheme, traffic naturally tributary to car ferry routes moving to eastern destinations is being diverted from the Chicago gateway, thereby effecting a reduction in terminal operating costs in addition to a saving in mileage. During the three weeks prior to July 1, considerable traffic was rerouted on lines west of Milwaukee, Wis., and Manitowoc, and the car ferry lines were handling tonnage approximately 70 per cent of their capacity eastbound. On June 26 a meeting of representatives of rail lines and car ferry lines was held at Green Bay, Wis., and committees were appointed to supervise the routing of traffic at the lake ports. Under the plans adopted, traffic is being sent via the most direct routes and congestion at lake ports avoided. Eastern lines are co-operating with the western roads and now have under consideration a plan for joint operation of all car ferry boats, so that they may be used to the best advantage.

Because of the marked success of the rerouting plan where tried, plans are under way for its early application to all traffic in the West, and for this purpose three standard forms have been drawn up which will be used for recording all corrected routings in the future. One form will be used at points of origin to cover shipments, the routing of which has been changed by shippers at the request of the carriers. Another form will be used for recording those shipments rerouted in transit at transfer points. A third form will be used by the individual railroads to cover shipments diverted to direct routes in the course of each month at stations on the lines. Each form contains columns for entering the date of recording the shipment, the car initial number, the point of origin, the destination, the commodity, the weight of the lading, the original and corrected routes, the mileage via the two routes, and the reduction in loaded car mileage effected by rerouting.

While the routing of carload traffic has received the most attention up to the present time, the regional director of Northwestern railroads, who has jurisdiction over all Chicago terminals, has inaugurated a plan for the more economical and efficient handling of l.c.l. traffic from Chicago for common points, effective July 15. The circular announcing the plan lists all stations of any consequence in the United States and the railroads which should be used in shipping merchandise to those points. For instance, merchandise consigned to St. Louis will move only over the Chicago & Eastern Illinois and the Wabash, while that destined to Salt Lake City, Utah, will move via the Chicago, Milwaukee & St. Paul, and that destined to San Francisco, Cal., via the Chicago & North Western or the Atchison, Topeka & Santa Fe. All merchandise going to Vancouver, B. C., will move via the Minneapolis, St. Paul & Sault Ste. Marie, and that destined to Buffalo, N. Y., will be delivered to the Michigan Central and the Wabash only.

Although the rerouting plan, as outlined in this article, was initiated by the carriers, shippers generally are entering into the spirit of the scheme and are directing traffic over short routes affording the best service and in a manner to avoid congested terminals where possible. It is recognized by those who are pressing the rerouting of traffic that all routes should be kept open, to be used when the movement of freight exceeds the capacity of the short routes, and likewise that it is often necessary to use a longer route when transit or stopping privileges are permitted at intermediate points.



Norfolk & Western 267-Ton Mallet Locomotive

Many Interesting Details of Design in Both Engine and Tender, Built in the Company's Shops

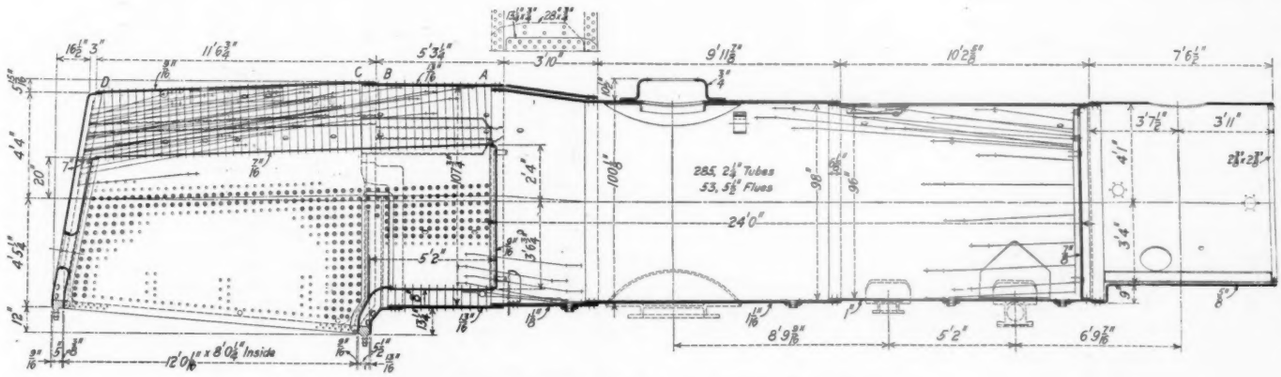
By H. W. Reynolds

THE NORFOLK AND WESTERN has used Mallet locomotives in general road service for the past five years. Realizing the need of a more powerful locomotive of this type, it has built and now has in use a large 2-8-8-2 Mallet. This locomotive, known as Class *Y2* was built in the company's shops at Roanoke, Va., and the design is the outcome of five years of close observation of the Mallet locomotives already in service.

On account of the limited clearances, compactness in design was necessary in order to obtain proper proportions. It was found that low pressure cylinders 39 inch by 32 inch were as large as could be used, and in order to secure a cylinder ratio of 2½ to 1 it was necessary to use high pressure cylinders 24½ inch by 32 inch, and a boiler pressure of 230 lb. per sq. in. Another evidence of close clearances will be seen in desirable to make the low pressure valves outside admission. The McCord force feed lubricator is used for lubricating the low pressure cylinders. This lubricator is used to eliminate the flexible connections in the oil pipes to the low pressure cylinders, which have been a source of trouble. All other cylinder lubrication is accomplished by means of sight feed lubricators.

The pistons are built up of cast steel centers with cast iron wearing rings. While this design is not as light as the rolled steel piston, it is desirable because of the ease with which a new wearing ring may be applied, without necessitating the piston being again fitted to the rod.

Steam distribution is controlled by the Baker valve gear and the Norfolk & Western Class *KY* standard power reverse gear. Hancock pneumatic cylinder cock operating cylinders



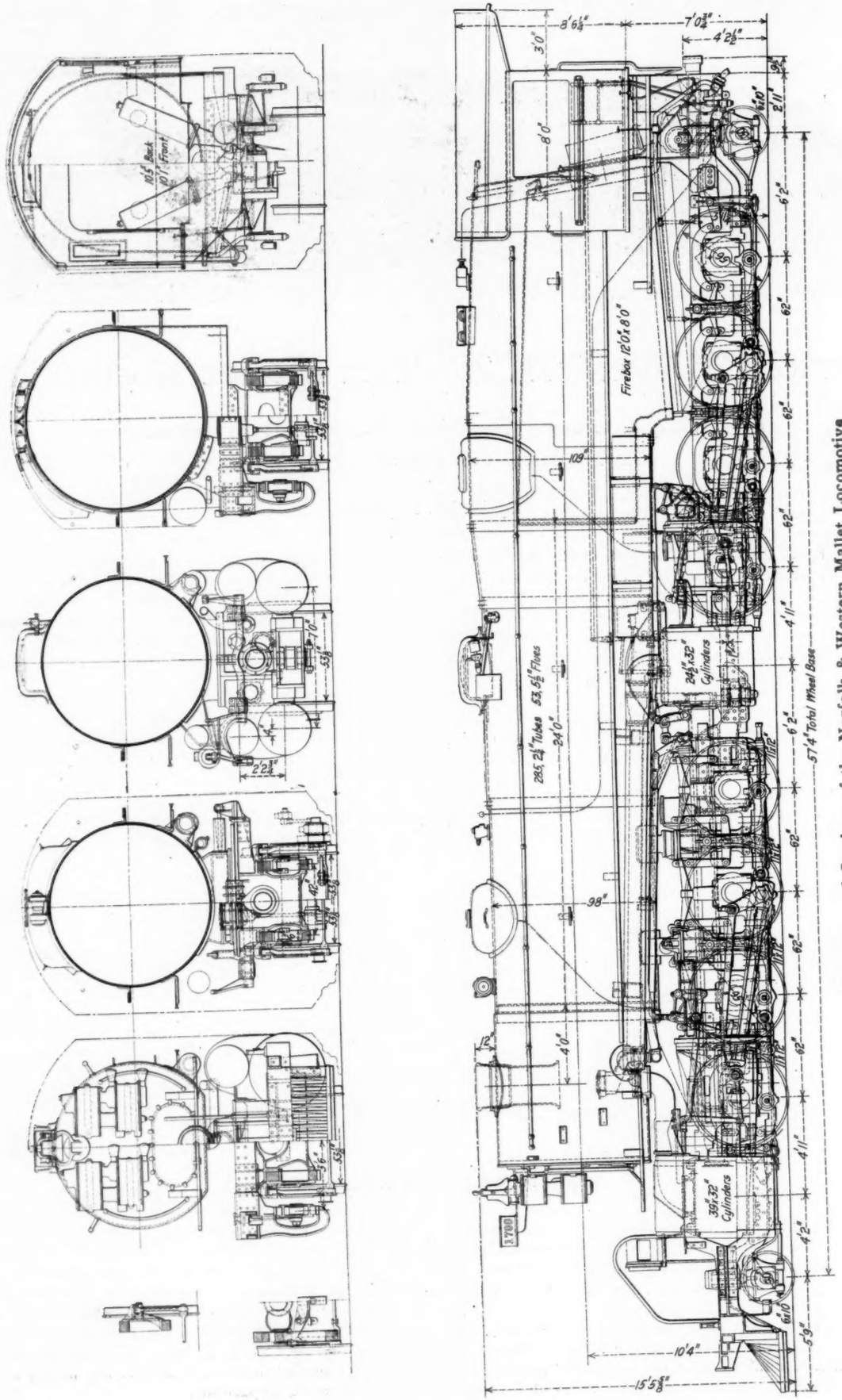
Boiler of the Norfolk & Western Mallet

the arrangement of the pop valves, which are laid flat on the boiler, with a shield between them to deflect the steam upward. It will also be noticed that the air pumps and bell are located on the boiler front, the bell being operated by means of a Gollmar bell ringer.

Both high and low pressure cylinders are equipped with piston valves. The valves in the low pressure cylinder are 17 in. in diameter, while those of the high pressure cylinders are 14 in. in diameter. In order to obtain steam and exhaust passages of ample area, free from abrupt bends, it was found actuate the cylinder cocks, and the grates are operated by means of the Franklin steam grate shakers.

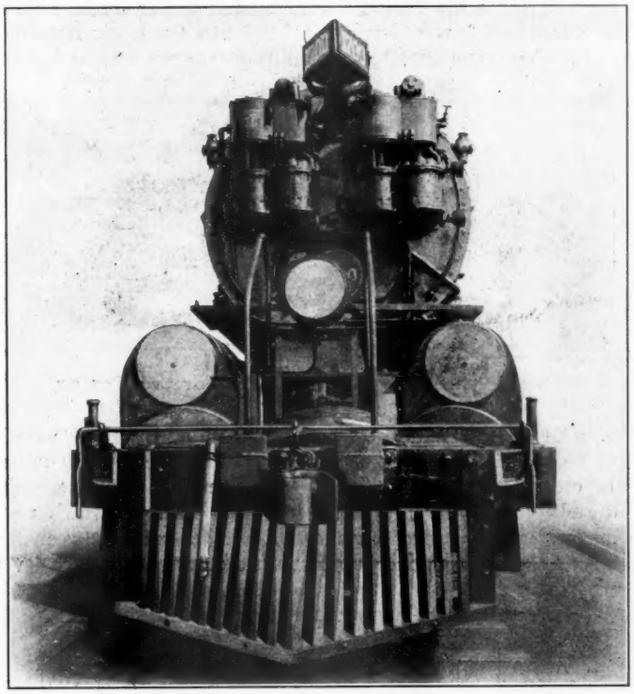
The driving wheels are equipped with flanged tires throughout and the locomotive is designed to take 18-deg. curves. The frames, driving boxes, driving wheel centers and all frame braces are of cast steel. The cylinders are of gun iron. Care was exercised in the design of all castings and cast steel was used liberally in order to reduce the weight and secure a boiler of ample proportions.

The boiler is of the extended wagon top type, with a cen-



Elevation and Sections of the Norfolk & Western Mallet Locomotive

tral dome and is equipped with a 53-unit Type A superheater. The firebox with its liberal grate surface of 96 sq. ft. is equipped with the Security arch supported on five water tubes



Front View of the N. & W. Mallet Locomotive

3 in. in diameter. There are 53 flues 5½ in. in diameter, and 285 tubes 2¼ in. in diameter, 24 ft. long over tube sheets, and a combustion chamber 5 ft. 2 in. long.

plate steel was saved and the required strength of the boiler maintained. The dome is located on the second course of the boiler just in front of the gusset sheet, in order to obtain sufficient height for the Chambers' throttle valve. The firebox and combustion chamber of the boiler are electrically welded throughout, thus eliminating flanging and the possibility of cracks after two or three years of service. The tubes are located well up in the back tube sheet to prevent clogging. It has been found that a number of the lower tubes located close to the bottom of the sheet are practically of no value, as they stop up and require constant attention to keep them open.

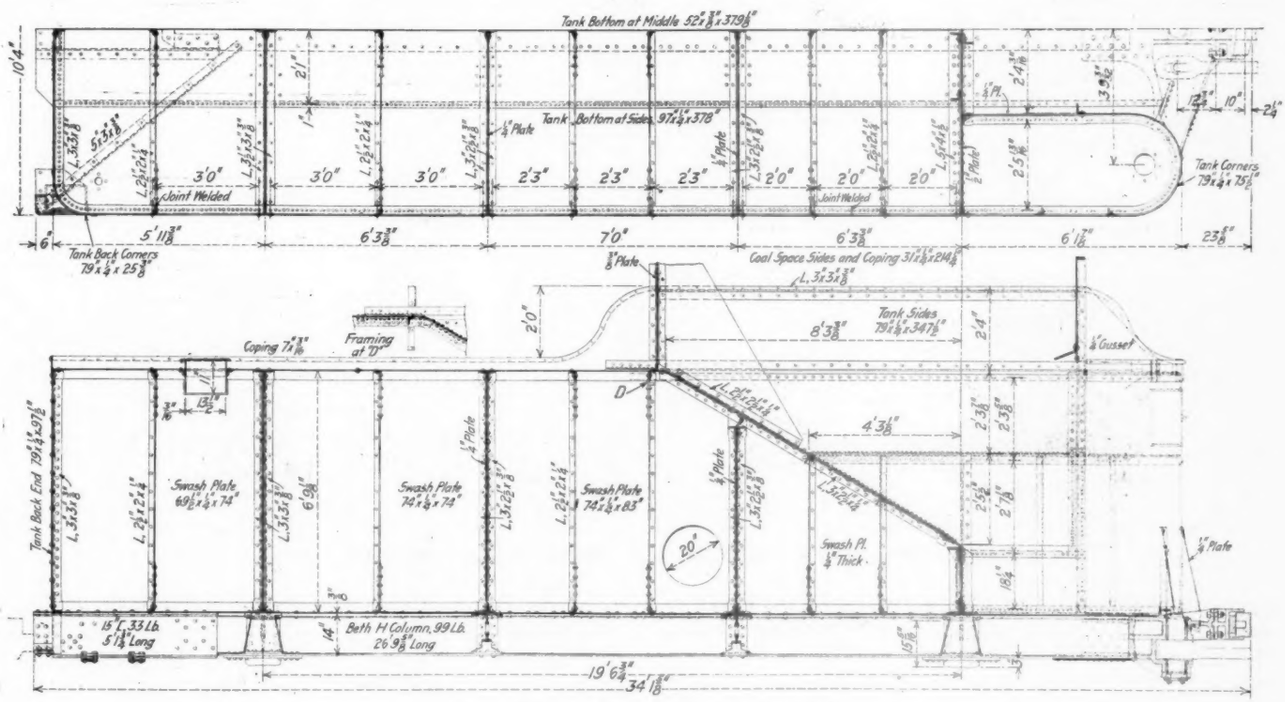
The boiler is fitted with the Sentinel low water alarm. The value of this device lies not only in the elimination of burnt or damaged crown sheets, but the water in the boiler may be worked at a lower level, resulting in increased superheat temperatures. The efficiency of the superheater on large locomotives, particularly on those with long boilers, is frequently perceptibly lowered, due to the tendency of some engineers to carry the water at too high a level. Perfect confidence may be had when carrying the water at a low level on a locomotive equipped with this alarm, for the reason that sufficient time remains after the alarm has sounded to fill the boiler to the proper level without danger of damage.

Two Sellers non-lift injectors, each having a capacity of 7,500 gal. of water per hour, are located one on each side of the engine under the cab with the steam control valves located outside and in front of the cab. Coal is fired by means of the Duplex stoker, and from road tests the boiler has been found to steam freely.

The smokebox front is of steel plate in order to provide support for the air pumps.

Among the special features of the equipment of the locomotive are radial buffers, Graham-White perfect sanders, and Pyle type K headlight equipment, with 9-in. by 18-in. headlight reflector.

The construction of the tender differs materially from usual



Elevation and Half Plan of the Tank

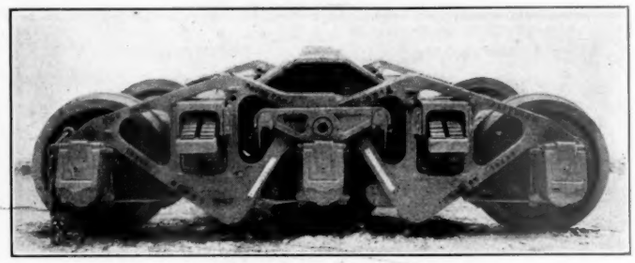
An unusual feature of boiler construction will be noticed in the fourth ring over the combustion chamber. By using a thin plate 13/16 in. thick in this location, over 3,000 lb. of boiler

practice. The tank is made of structural shapes and the frame is built into it, resulting in increased strength and decreased weight. The body bolsters are located in the tank

over the truck centers and two intermediate diaphragms are located between the body bolsters. Between the diaphragms, between diaphragms and bolsters, and between the rear bolster and the end of the tank, lateral bracing is placed to furnish the necessary strength against bulging. The center sill, riveted underneath the tank, is a Bethlehem H-section, which extends from a point just in front of the front truck center to a point back of the rear truck center. Carefully fitted and riveted to the front end of the center sill is a steel casting arranged to support the front water legs. This casting also contains pockets to receive the drawbar and safety bars. A steel casting is riveted to the back end of the center sill, to either side of which draft arms are riveted. These draft arms extend to the rear of the tank, where they are held in position by knee braces built up of plates and angles. Sessions draft gear is used in connection with the Farlow one-key attachment.

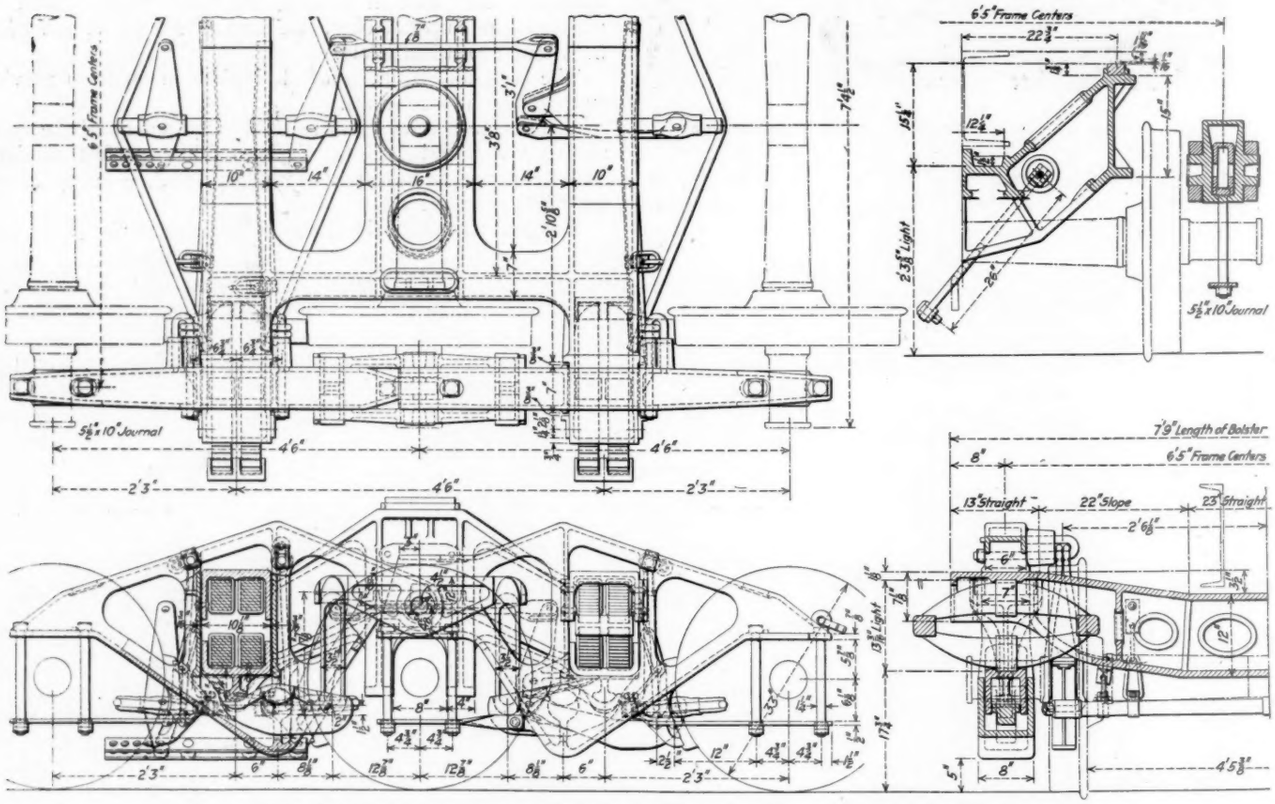
Short steel castings arranged with side bearings are fitted each side of the center sill over the truck centers and are securely riveted to the center sills and tank floor. These castings serve to transfer the load from the body bolsters to the truck centers. Cast steel knees are riveted to the center sill and tank floor at each diaphragm to provide the center sill with lateral stiffness. The tender has a capacity of 12,000 gal. of water and 20 tons of coal. The design has been found to be very successful.

The tender is carried on two 75-ton six-wheel non-pedestal trucks, the design of which is a departure from the Lewis six-wheel freight car truck in use on the Norfolk & Western. Helical springs are used in the Lewis truck and the openings in the side frames for receiving the springs and bolster arms are so located as to throw two-thirds of the load coming on each side frame on the journal boxes of the outside pairs of wheels. By this method proper weight distribution is obtained, but it is necessary in order to keep the wheel base within reasonable limits to have the nest of springs in each side frame close to the outside pairs of wheels and arrange the neck of the body bolster to clear the wheels with springs solid. When the attempt was made to use elliptic springs on the Lewis truck it was found difficult to get them in and clear the wheels, so the 75-ton elliptic spring tender truck, known as Class T-27, was developed. On this truck the openings in the side frames are located midway between each two pairs



New Type of Six-Wheel Truck for the Tender

of wheels. This location causes the middle pair of wheels to be loaded in a larger proportion than the outside pairs. In order to remove the excess load from the middle wheels, the elliptic springs are placed on seats, each of which rests on one end of a lever pivoted in the side frame between the opening and the middle wheels. The other end of each lever rests against the bottom end of a strut, the top ends of which react against the end of a lever pivoted to the side frames over the middle journal boxes. It will be seen that with the levers properly proportioned, the weight on the springs will cause an upward thrust to be exerted on the levers pivoted to the side frames over the middle journal boxes equal to the amount of the excess weight on the middle pair of wheels. This relieves the middle wheels of the excess loading and gives the same weight on the rail for all three pairs of wheels.



Plan and Elevation of the Norfolk & Western Class T-27 Tender Truck

To one side frame on each side of the truck is bolted rigidly the journal boxes of the outer and middle pairs of wheels, while to the other frame is bolted the journal box of the outer pair of wheels, and the end of the frame is passed into and rests on the rigid side frame over the middle journal box to form a flexible connection.

The usual practice of making the members at the top and bottom of the side frame openings parallel is not followed for the reason that the load is applied to the side frames at a single point under the center of the columns next to the middle wheel, the columns and wearing surfaces toward the outer wheels acting only as guides for the bolster arms. This permits the side frames being designed to secure perfect truss action.

Axles with standard M.C.B. 5½ in. by 10 in. journal boxes are used. The brake beams are hung from the side frame and the design of brake rigging is the same as that in use on the Lewis truck. The truck bolster is of cast steel in one piece, with the ends of the arms arranged to fit over and rest on the elliptic springs. On account of ample space being provided by the design of the tank, the side members of the body bolster are made deep where they pass over the middle axle. Ample wearing surfaces are provided, and the absence of all bolts and pin connections will be noted.

The principal data and dimensions of this locomotive are:

GENERAL DATA

Gage	4 ft. 8½ in.
Service	Freight
Fuel	Bit. coal
Tractive effort, compound	104,300 lb.
Tractive effort, simple	135,600 lb.
Weight in working order	535,000 lb.
Weight on drivers	472,000 lb.
Weight on leading truck	28,000 lb.
Weight on trailing truck	35,000 lb.
Weight of engine and tender in working order	747,000 lb.
Wheel base, driving, both units	15 ft. 6 in.
Wheel base, total	57 ft. 4 in.
Wheel base, engine and tender	92 ft. 11¼ in.

RATIOS

Weight on drivers ÷ tractive effort	4.52
Total weight ÷ tractive effort	5.13
Tractive effort × diam. drivers ÷ equivalent heating surface*	680.6
Equivalent heating surface* ÷ grate area	89.4
Firebox heating surface ÷ equivalent heating surface,* per cent	5.6
Weight on drivers ÷ equivalent heating surface*	55.0
Total weight ÷ equivalent heating surface*	62.3

CYLINDERS

Kind	Compound
Diameter and stroke	24½ in. and 39 in. by 32 in.

VALVES

Kind	Piston
Diameter	H. P., 14 in., L. P., 17 in.

WHEELS

Driving, diameter over tires	56 in
Driving, thickness of tires	3 in.
Driving journals, main, diameter and length	11 in. by 12 in.
Driving journals, others, diameter and length	11 in. by 12 in.
Engine truck wheels, diameter	30 in.
Engine truck, journals	6 in. by 10 in.
Trailing truck wheels, diameter	30 in.
Trailing truck, journals	6 in. by 10 in.

BOILER

Style	Wagon top
Working pressure	230 lb. per sq. in.
Outside diameter of first ring	98 in.
Firebox, length and width	12 ft. by 8ft.
Firebox plates, thickness	⅞ in.
Firebox, water space	Front 5½ in., back 5 in., sides 4½ in.
Tubes, number and outside diameter	285—2¼ in.
Flues, number and outside diameter	53—5½ in.
Tubes and flues, length	24 ft.
Heating surface, tubes and flues	5,834 sq. ft.
Heating surface, firebox including arch tubes	482 sq. ft.
Heating surface, total	6,316 sq. ft.
Superheater heating surface	1,510 sq. ft.
Equivalent heating surface*	8,581 sq. ft.
Grate area	96 sq. ft.

TENDER

Tank	Water bottom
Weight	212,000 lb.
Wheels, diameter	33 in.
Journals, diameter and length	5½ in. by 10 in.
Water capacity	12,000 gal.
Coal capacity	20 tons

*Equivalent heating surface = total evaporative heating surface + 1.5 times the superheating surface.

Orders of Regional Directors

AMONG THE MORE IMPORTANT instructions issued by the regional directors during the past week are the following:

Bulletins expressing the urgent needs of the government for men should not be posted on the regular bulletin boards of the railroads, and representatives of government departments should under no circumstances be permitted to address railroad employees at the shops for the purpose of attracting men into other branches of government service.

The records indicate that the tons per loaded car from the southern region do not show a very marked increase and that considering the fact that there is such a large proportion of the tonnage from that region moving through the congested eastern region, it is most important that maximum loading be obtained in order to reduce to the fullest extent possible the number of cars moving through congested gateways into eastern territory.

The question of disposing of old ties has been under consideration, but because of the widely varying conditions it has been concluded that it is not possible to establish a uniform rule. Therefore, the determination of the problem is left to the discretion of the managements of the individual lines.—*Southern Region.*

There seems to be some unrest among supervisory forces on central western railroads, such as yardmasters, despatchers, foremen, etc., by reason of discrepancies created in rates of pay under the application of General Order No. 27. Central western lines are asked to fill in forms, recording the specific cases in which a readjustment of pay may be considered necessary. Separate forms are provided for the mechanical, the transportation and the maintenance of way departments, with columns in each for entering the title of the position, the location of the man, his rate of pay prior to General Order No. 27, his present rate of pay, the recommended rate of pay, and the reasons why an increased rate is necessary.

Box car equipment has been used to a considerable extent at army camps for loading manure and other refuse, which makes the cars unfit for general service. Railroads are asked to issue instructions that gondola or stock cars be utilized for such loading and that the use of box cars be prohibited.—*Western Region.*

Data is requested concerning each railway's organization at coal mines for the inspection of the quality of fuel, and as to engines in service by classes and description, two copies of which are to be sent to the manager of the Fuel Conservation Section of the Railroad Administration and one copy to the regional director.—*Southwestern Region.*

Present prospects indicate that there will not be enough coal in the West to meet all requirements during the coming winter. In order to help the situation, each road is asked to review its program for storing coal and to increase, if possible, the quantity to be stored, particularly in territories farther from the mines. Storage aggregating 15 to 20 per cent of annual requirements will not be excessive in view of the desperate conditions that will confront the roads in moving coal for domestic and other purposes during the winter. Western lines are asked to report to what extent they can increase their storage coal program, showing the quantity of the expected increase at each location, and the name and location of mines from which they expect to obtain additional quantities.

Instructions governing the reconsignment of fruits and vegetables within the Chicago district, which have been worked out in detail with respect to the local conditions on each road, specify when requests for reconsignments must be received at each auction house, at team tracks and by connecting lines if the reconsignment is to be accomplished on the same day that the request is filed.

In Supplement No. 7 to Circular No. 63 to northwestern roads, dated June 8, the regional director says: Effective at

once a maximum rate of 30 cents per hour for track labor outside of the Chicago Terminal district is hereby authorized where considered necessary in addition to districts named in Supplement No. 5 to Circular No. 63, with the understanding that before the increase is made over and above the rates now in effect, lines interested in the same districts must be notified and the regional director must be advised of the date the increase will be made effective and the limits of the district to which it applies.

Storedoor Delivery of Freight In New York City

THE COMMITTEE OF COMMISSIONERS which has been studying the problem of relieving freight congestion in Manhattan, New York City, and which agreed several months ago on a tentative plan for organizing the truckmen of the city, has concluded that the time has come for putting some arrangement into operation, and it has secured approval by Director General McAdoo of its report outlining the general principles which it is proposed to adopt, and it is announced that a beginning will probably be made on August 15.

This committee consists of James S. Harlan, of the Interstate Commerce Commission; Travis H. Whitney, of the New York State Public Service Commission, first district, and R. W. E. Donges, of the Public Utilities Commission of New Jersey. Mr. Harlan has been spending most of his time lately in New York City, and is this week holding conferences with commercial and trucking interests. He designates the plan as one for "the removal of inbound freight from piers and freight stations by the consignees" in accordance with the following general basis:

1—All that part of Manhattan Island that lies south of Fifty-ninth street shall be designated as a drayage district.

Team tracks within that area shall not be regarded for the present as being in the drayage district.

2—No notice hereafter shall be given to the consignee of any freight arriving at a pier within the drayage district, and no free time shall be allowed; all inbound carload and less-than-carload freight on arrival shall be handled immediately to the store door of the consignee.

3—A drayage director shall be appointed who shall have general supervision and control, for the consignees, of the trucking of freight from pier or freight stations after it has been placed upon the pier or station floor by the carrier.

4—There shall be a drayage supervisor at each pier who, under the control of the drayage director, shall have general authority over the removal of inbound freight from the pier floor or platform.

5—The salary of the drayage director and of the several drayage supervisors and other necessary assistants, together with their necessary operating expenses, shall be paid out of a fund contributed by the carriers serving the metropolitan area on a tonnage or other satisfactory basis determined by them and the drayage director. The drayage director and drayage supervisors, however, shall be appointed by the Director-General of Railroads, or under his authority, and shall report to and be responsible to him.

6—The drayage district south of Fifty-ninth street shall be divided into delivery zones having relation to their proximity to the piers and the density of their traffic.

Inbound freight as far as possible shall be distributed by the carriers on the pier platforms or floors by delivery zones; but when practicable shall be delivered immediately from the car to the trucks operating in the zone to which the freight is destined.

Inbound freight shall be delivered to consignees only in trucks registered with the drayage director, and all trucks so registered shall be under the full authority of the drayage director. No trucks other than those so registered shall be allowed upon the piers for the removal of inbound traffic except under special permit issued by the drayage director.

For good cause shown the drayage director may cancel the registration of any truck, and his decision shall be final.

7—The drayage director, as far as possible in the conduct of the drayage service, shall utilize the equipment of existing trucking and teaming organizations and of shippers; special equipment shal be utilized as far as possible in the handling of the special commodities for which they are designed.

8—The drayage director shall make such rules and establish such regulations as will facilitate the prompt removal of freight, making only such exceptions in the use of equipment as may be in the public interest.

The drayage director shall make all necessary rules and regulations for the bonding of the owners of trucks used in the drayage service and respecting the methods of collecting the freight and drayage charges.

As at present the delivery of freight by the carrier to the consignee will continue to be effected on the pier floor or platform and its responsibility for loss or damage will remain unaffected by the consignees' drayage service herein provided; the drayage director will make all necessary rules and regulations defining the responsibility of truck operators for loss of or damage to freight while in their custody.

9—Delivery of freight shall be made to the consignee at the usual place for delivery at street level, and when a consignment so tendered is refused or when the payment of the legal freight and drayage charges is refused, the freight may be stored in a public warehouse at the cost and expense of the consignee and as a lien upon the consignment.

The drayage director shall designate the warehouses to be used for this purpose.

10—The drayage director shall make such rules and establish such regulations as will tend to build up the gathering of freight by the registered trucks for outbound movement.

11—The drayage director shall have power to make a schedule of rates and charges for the drayage service, including the charges for undue detention of a truck by a consignee at the point of delivery, and to change the same from time to time as conditions may require; he shall also have the power to fix the hours during which consignees must be prepared to receive freight.

12—The drayage director shall have power, should it become necessary in his opinion, to extend the drayage service to the docks of such water lines as are parts of the transportation system under the control of the Director General of Railroads.

In this outline of a plan for relief from pier and station congestion on Manhattan Island, an effort has been made to include only the main general features that are regarded as essential and fundamental.

Commissioner Harlan says that the railroads have indicated their willingness to supply the funds for defraying the necessary expenses of the drayage director and such assistants as he may require in supervising the service as a shippers' service, no other practicable way having been found for meeting this expense; and the largely increased traffic which the carriers will be able to move with a free working space at all times on their pier and station floors and platforms, is held to more than justify the outlay.

He points out that the plan can be put in effect with little delay and without material disturbance of present conditions; while it avoids the necessity of any new capital investment at this time by making full use of the present equipment of shippers and teaming companies; and it continues the service as a shippers' service, as it is now, by simply so regulating it as to require all inbound freight to be carried away by the consignees, through an organized trucking service, as soon as it is unloaded.

Maintenance Work Is Being Seriously Delayed

Unless Checked the Shortages of Labor, Rail and Ties Will Lead to the Deterioration of the Tracks

RAILWAY MEN responsible for the maintenance of tracks and structures are showing much concern over the lack of progress being made in the normal repair of the roadway this year. While in the area south of the Ohio river a large part of the work can be continued throughout the year, and while, even in the Northern States, some of the renewals can be carried out during the winter, the larger part of the work on the roads north of the Ohio river (which include those lines with the heaviest traffic and the most work) is seasonal in character and must be done in the summer. This limits the period during which the larger part of the maintenance can be handled to the seven months between April and November, inclusive. The three best months of the season are now gone, with far less than the normal amount of work completed.

With the harvest season at hand and with the promise of record-breaking crops this year the demand for labor from this direction will be even greater than usual, and the high wages which are being offered will deplete track gangs more completely than even in past years. By the time the harvesting will be finished and these men return to the track the season will be so far advanced that it will be necessary to concentrate efforts on the closing of the work and the preparation of the track for the winter.

Although some roads started their routine maintenance work this year as soon as the frost was out of the ground, many other lines delayed undertaking active work until the Railroad Administration had developed its policies and made known its attitude regarding the numerous questions confronting the maintenance of way department. Furthermore, in many cases the renewal of ties and rails, comprising the heavier work of track maintenance, has been held up by the lack of materials.

Progress on additions and betterment work has been even more seriously delayed. All work on projects other than those carried over from last year was held up until May by the lack of authority to proceed. Although the Railroad Administration began issuing approvals of projects early in that month, most of the work was not authorized until late in May and is only now being started. As a result three full months have been lost on most of the additions and betterment work authorized for this year, this occurring at a time when additions and improvements to existing facilities are more needed than ever before.

This delay in starting both maintenance and improvement work follows several years of restricted expenditures. Last year the deficiency was particularly pronounced. The high cost and scarcity of materials contributed to this condition, but the lack of men was even more largely responsible. Much work was left incomplete last fall and a number of roads found themselves in the unusual position of having larger appropriations than they could spend because of their inability to get a sufficient number of men to do the work. This left the roads in none too good condition to go into last winter. With one of the most severe seasons in history, and with the traffic exceeding all previous records, the wear and tear on the property was correspondingly great and the roads required more work this spring to put them into proper condition than in any recent year. In view of this fact the delay which has already occurred, and which is still occurring this season, is all the more serious. It is for this reason that maintenance men are showing so much concern over the condition of their maintenance work.

Another factor contributing to the seriousness of the situation is the shortage of ties and rails, the two basic materials used in the largest quantities in track maintenance. Following the taking over of the control of the roads by the government, notice was issued that the central purchasing bureau would order all rails. Since that time no orders for rails have been placed either by the roads or by the government. As a matter of fact nothing is to be gained by placing orders under existing conditions, for the mills have not yet rolled the rails booked on orders placed one and two years ago, having nearly 2,000,000 tons now on order, and still undelivered, most of which was contracted for in 1916 and early in 1917. The mills are now rolling about 25,000 tons per week, at which rate only about 25 per cent of the total tonnage now on order will be available for laying this season. When it is considered that the railroads of this country use approximately 3,000,000 tons of rails annually in normal years, one realizes what is taking place. The problem is not that of ordering more rails, but rather of securing the delivery of the rails which are already ordered.

At the present time the steel output of the country is not sufficient to meet the military and industrial needs combined, in spite of the tremendous development which has taken place during the four years. Under present conditions the military demands must be met first and the railways can expect consideration only as their needs are found of vital importance to our national welfare. In order to allot the steel output where most needed, arrangements have recently been concluded between the American Iron & Steel Institute, representing the manufacturers and the government, whereby the latter will distribute the entire output of finished materials to the users.

It is commonly recognized that the continued operation of the roads at their highest efficiency is essential to our military success, and that the tracks must be properly maintained if the traffic is to be moved safely and expeditiously. In general the wear of rails is proportional to traffic moving over them, and as a result this wear has been unusually heavy during the past year. Following several years of deficient maintenance in rail replacement, as in other upkeep work, the condition of the rail in track has shown a steady decline. As a result in numerous instances the rail now in track has reached the safe limit of its wear, and further postponement of its renewal can only be done at the risk of increased breakages and derailment.

While the average condition of the rails in service has declined during the last few years, this is not universally true. A number of roads have been able to keep their maintenance up to normal and on such lines it is possible to go without rails or to do with greatly reduced tonnages this year without serious results. However, up to the present time little attempt has been made to distribute the rails now being rolled to those roads most in need of them and as a result some of the lines which are now in the best condition are receiving rails not because they are sorely in need of them, but because of their foresight in placing orders two years ago. If the output of rails is to be limited, and it would seem that the national situation now warrants this action, it would appear to follow as a necessary step that some comparison of the different roads be made whereby it would be possible to distribute the rails where most needed in order to maintain all the roads at as nearly an average condition as possible.

This would mean filling orders already placed in some

instances and in placing new orders with precedence over old ones in other cases. In determining which roads should take precedence in the delivery of rails, consideration should be given not only to the present condition of the rails in track, but also to the traffic now moving over them, and that which may be expected to pass over them in the next few months. In many instances rail which is now in fairly good condition, but which is bearing a heavy traffic cannot be carried over another year with as great a factor of safety as poorer rail which is carrying less traffic and subjected to relatively little wear. This condition was found in Canada recently, where some of the best maintained roads normally were found to be most in need of rail because of the heavy traffic which they were carrying.

The renewal of ties has also been delayed by a shortage of supplies on many roads. Early in the spring the government issued orders that the roads could buy ties only along their own lines and at prices not exceeding those paid last year. Where ties could not be secured in this way the government announced that it would arrange to purchase them. While this order was issued so late that it had little effect this year on the roads using treated ties, or with contracts already placed, it has shut off supplies for other roads dependent on this spring's purchases, owing to the delay in the perfecting of the government's purchasing organization. This has been accentuated by the shortage of labor in the tie-producing districts, which condition alone would have led to a reduced supply. While the early shortages which existed on a number of roads early in the season have been relieved considerably by delayed deliveries, the time lost by the track forces in placing them in track cannot be made up.

Because of the importance of this subject of adequate maintenance to all railway men, and also because of its direct bearing on the efficiency with which the railways can be operated during the next winter, we have addressed a letter of inquiry to a number of representative roads throughout the country asking specific questions about conditions on their line and in the territories traversed by them as of June 1. These questions and abstracts of some of the supplies are given below.

The Amount of Maintenance Work Above Normal

(1) How does the amount of maintenance work scheduled for this season compare with that of normal years?

Our replies to this question indicate that the amount of work scheduled for this year is equal to or in excess of that for recent years, as is evident by the following abstracts of replies:

"Maintenance work required this season to reach and preserve normal conditions is considerably more than in normal years owing to the deferred maintenance of the last two years."

"The amount of maintenance work scheduled for this season is practically the same as we have scheduled for the past three or four years."

"The amount of maintenance work scheduled for this year is approximately 5 per cent in excess of that of normal years."

"Our maintenance schedule this year considerably exceeds that of any carried out during recent years."

"The amount of maintenance work scheduled for this season is nearly normal, except in the matter of ballast. The ballast program is reduced to about 60 per cent."

Maintenance Work Badly Delayed

(2) Is it advanced as far as normally at this date? If not, what are the present factors contributing to the delay?

"Our maintenance work this year is far behind normal years. This is entirely due to a lack of labor."

"The one thing that can help us out materially is to secure labor of some kind from some source. If some arrangements could be made to let the Mexican, Jap and Chinese labor into the western part of the United States in considerable numbers we could no doubt carry on the work satisfactorily."

"We are considerably further advanced with our tie renewals than in former years, because of our ability to secure men early in the season. We have endeavored to take advantage of this condition while the men are available, as we believe that this condition will not continue throughout the season. It may be necessary to curtail our ballast program somewhat because of labor conditions later in the season."

"On our bridge work the amount of work performed is about normal. On our tie renewals the work performed is about normal on one-half of our system, but below normal on the remainder on account of a shortage of labor in that territory. Our ballasting is below normal, principally due to lack of power."

"Our program is not as well in hand as it might and should be, due to many causes, but principally on account of the uncertainty brought about by conditions and the inability to secure materials at such a time as will best answer all purposes."

"The progress made to date is about 20 per cent less than normal at this time of year, the governing factor being the shortage of labor."

Adequacy of Maintenance Forces

(3) To what extent are your maintenance of way forces below normal?

Practically all of the roads replying reported that they were from 5 to 50 per cent short of their normal maintenance forces at this season of the year, as is indicated by the following abstracts:

"Our maintenance forces at this date are fully 30 per cent below normal, with a probability of their falling to as low as 50 per cent of normal as the season becomes further advanced."

"Our maintenance-of-way forces on one-half of our system are about normal, while on the other half they are about 10 per cent below normal."

"During the month of April, one of the best working months in this territory, the maintenance forces were 15 per cent below normal in number and a much heavier percentage below normal in efficiency."

"With the exception of one or two short stretches of territory, our labor forces are filled up to normal. However, some 700 or 800 additional track laborers could be used to good advantage if available."

"Taking the line as a whole, our maintenance forces are probably about 25 per cent below normal, although the situation is considerably spotted. The western part of the territory is considerably shorter in men than the east end of the line."

Ties and Rails

(4) What proportion of your normal season's supplies of ties and rails have you on hand or immediately in sight?

The widely varying conditions relative to ties and rails are indicated by the replies received to this question. As is evident below, some roads are encountering little difficulty from this source, while others are in serious straits.

"We have all our ties on hand for 1918, as we make it a practice to have in stock the first of the year all ties necessary for that season. We are short on rail deliveries, although the mills continue to deliver us rail, in reduced quantities. It is quite probable that we will not complete our rail program because of this fact."

"On this date, with 42 per cent of the year gone, we have received 28 per cent of our yearly tie supply. In other words, we are receiving about two-thirds of our normal requirements and anticipate that this proportion will prevail throughout the year. With reference to steel rails we are only now re-

ceiving the last of what was contracted for delivery in the summer and early fall of 1917. We are so far unable to get any assurance of delivery on our 1918 rail, contracted for nearly two years ago for delivery to begin last March.

"Our tie and rail deliveries are about normal. We had some shortage in the delivery of ties in March and April, due to the fact that on account of the lack of creosote our plant did not start up until May 1, while it usually starts up about March 1. Our rail receipts are about normal this year, owing to the fact that up to this time we have been receiving shipments of rail on our 1917 order, which was short about 22,000 tons. We have also been short, and are still short, the rail joints for maintenance work."

"At this time we have about two-thirds the normal supply of cross ties and four-tenths of 1 per cent of the normal supply of new rail."

"The outlook for normal tie requirements at this date is reasonably satisfactory. It is questionable, however, if we will be able to secure such a supply of renewal rail as will satisfactorily answer our demands."

"We have on hand or in sight about 70 per cent of the normal season's supply of ties, but only about 30 per cent of our rail requirements."

"We have on hand or in sight about 90 per cent of this season's ties. This year's contract for rail called for 50,000 gross tons and to date we have not received any of this tonnage. The rail received so far this year applied on our 1917 contract, which has just been completed. The purchasing department advises that we will possibly only receive about one-half of the 50,000 tons ordered for this year between now and January 1."

Additions and Betterment Work

(5) How does your budget of Additions and Betterment work compare with that of normal years in magnitude?

The amount of Additions and Betterment work on different roads varies widely, although in the aggregate it is equal to or in excess of that for recent years. The variation is shown in the following replies:

"Our Additions and Betterment work is somewhat behind that of normal years because we appreciated the fact that our efforts should be directed toward maintenance this year and we have avoided all improvement work that could possibly be postponed."

"Our Addition and Betterment budget for 1918 is smaller than in normal years."

"Our budget for Additions and Betterment work is greater than has been normal for the past four or five years."

"About the usual Additions and Betterments are contemplated, but it is doubtful if labor and material can be had for them all."

"Our budget of Additions and Betterment work is considerably in excess of normal years, due to the great necessity therefor. It seems doubtful, however, owing to late approval thereof, whether we will be able to carry out that program to anything like its entirety."

"Our budget of Additions and Betterment work is considerably below that of normal years. We are only undertaking to secure authority for improvements that show a very decided necessity, and we are in a great many instances getting along with facilities that we would undertake to improve under normal conditions. The shortage of rail has reduced to a very great extent the work of increasing the weight of rail in our branch lines. The cost of work has increased to such an extent that it is rather difficult to compare the work we are doing with normal years, but it will not be more than 50 or 60 per cent."

"Our budget for Additions and Betterments as compared with other years is about normal."

Progress on Betterment Work

(6) Have you been able to make the customary progress this year? If delayed, to what extent, and the cause.

In view of what has been stated above it is to be expected that the progress on the Additions and Betterment work which has been undertaken has been slow and that the work is being interfered with by shortages of labor and material. These conclusions are borne out by the following replies:

"Our progress on work other than maintenance cannot be considered as fully up to our anticipations, but our efforts are being directed against those jobs most important to us and most affecting our operating conditions."

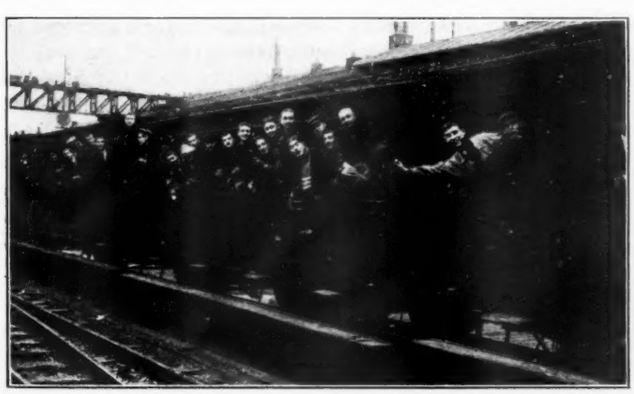
"We have not been able to make customary progress with Additions and Betterments and probably will not, due to labor and material shortages."

"We have not been able to make as good progress on tie insertions, laying new rail and ballasting as is customary, due to shortage of labor, ties and motive power for work trains. This latter trouble is being remedied by the dropping off of business and the fact that we have received some some new engines."

"Customary progress has not been made this year. The delay has primarily been due to difficulty in getting sufficient labor, and to the inefficiency of that obtained. It is also due to difficulty and delay in getting material."

"With our very restricted program we are making quite satisfactory progress, although it is rather questionable how long we can keep this up, owing to the restlessness of the laborers."

"We have not been able to make the customary progress in maintenance this year on account of the slow delivery of rail and a shortage of all classes of common labor."



Calling the Class 1919 Frenchmen for Service

The Present Status of Valuation

THOMAS W. HULME, vice-chairman of the Presidents' Conference Committee of the Railroads on the Federal valuation of the roads, has issued a statement under date of July 1, outlining the present status of valuation work and also giving abstracts of statements made by C. A. Prouty, director of the Division of Valuation, before the Appropriations committee of the House of Representatives recently, both of which are abstracted below.

It is generally understood that the Interstate Commerce Commission has been for some time actively engaged in considering the fundamental questions involved in valuation matters, and that its opinion with reference to some of them at least will be given in connection with the decisions which it is expected will soon be delivered in the cases of the Texas Midland and the Winston-Salem Southbound railway. The approval of the director general having been obtained to charge the expenses of this organization, other than those of a legal nature, to operating expense for the balance of the year from May 1, a call to provide the necessary funds was made upon the carriers on May 15, 1918. An appropriation of $3,500,000 to provide for the continuance of the railroad valuation work for the fiscal year beginning July 1, 1918, and ending June 30, 1919, is included in the sundry civil appropriation bill which has been passed by Congress and is awaiting executive approval. (This bill has been signed by the President.—EDITOR.)

No additional tentative valuations have been served by the Commission. The bureau of valuation is furnishing carriers with copies of inventories as completed, in preliminary form, and is asking them to point out any errors or omissions in connection therewith, and, in an informal way, make their claims with respect thereto. Carriers are advised that this action of the bureau of valuation is in the nature of a trial to ascertain whether differences cannot be eliminated in an informal way, and thus reduce the volume of the record which is made when the formal service occurs and a protest is filed.

At present the procedure is somewhat as follows: The field engineer of the carrier may take exception to the notes during the progress of the work; subsequently when the preliminary copy of the inventory is sent to it, the carrier may offer objections thereto, which will then be considered by the bureau of valuation. Subsequent to the consideration of the objections, when the inventory is completed and is formally served upon the carrier, there are 30 days in which to enter a formal protest.

A hearing in the valuation of the New Orleans, Texas & Mexico began at Chicago on April 22, 1918, before Examiner R. H. Kimball. At this hearing the carrier was required to present evidence concerning all the objections raised by its protest, excepting those pertaining to land.

At New Orleans, May 1 to May 4, there was a further hearing at which the testimony was restricted to questions relating to land. The order assigning the case for hearing eliminated all questions of the cost of condemnation and damages or of purchase. The aggregate difference between the bureau and the carrier was only about $90,000, on the basis of acreage values. The general impression created was that this difference arose chiefly in two ways: (1) by including in the zones fixed by the bureau of valuation lands of different quality and value; such as farm lands, timber lands, and urban property; and (2) by marked differences between the values placed on urban property. The testimony of the carrier was offered to show that in several respects the original zoning and appraisal had not been accurately or correctly made. No time was fixed for filing briefs and it is presumed by the carrier that because of the agreement between it and the bureau and the commission that no finding or report will be made until after the Texas lines of the Gulf Coast System have been fully inventoried.

Briefs and reply briefs in the valuation of the Kansas City Southern have been filed on behalf of the carrier, and the bureau of valuation, and the Interstate Commerce Commission fixed June 20 and 21 to hear arguments. Notice, however, was given to the parties in interest on June 17 of an indefinite postponement of the hearing.

Hearing Before the Committee

MR. PROUTY:—We have got to organize a new service in connection with the valuation work. We have to keep an account of all the additions which are made to the property after the date of the valuation so that we can at any time know what the entire value of the property is. In order to do that, the carriers are required to keep an account of those additions, and we have to supervise that account.

That is doubly necessary at the present time, for the reason that the director general must have this same information in determining the amount of compensation to be paid the carriers. He pays a standard return based on the condition of the property when he received it, and if capital expenditures are made by the carrier after he receives the property, he will have to pay in addition to the standard return some rate of interest on the capital expenditures. My own view has been that the bureau of valuation of the Interstate Commerce Commission ought to do that work; that it ought to organize the necessary force, which it must have organized if government control had not supervened, and do the work rather than permit the director general to do it. It seems to me that government control is a temporary thing, and that any agency of regulation which is permanent ought to be established in connection with the Interstate Commerce Commission rather than by the director general, taking care always that no work is duplicated.

THE CHAIRMAN:—What is the condition of your work now?

MR. PROUTY:—We shall begin to lay off men in our field work within a year. We shall complete our field work easily as of the average date of January 1, 1920. I said to you a year ago that we would complete our office work as of the average date of January 1, 1921. I am not sure that we will absolutely do that, although I hope to do so. The war has made very serious inroads on our work. It has not only cost us in men, but it has cost us even more in efficiency. I have felt that we should maintain our field work first and our office work second, especially in view of the fact that certain parts of our office work can not be done until the commission has decided certain cases which are now pending before it. Therefore, it is possible that we may not complete our office work by January 1, 1921, but I hope to do so.

THE CHAIRMAN:—What do you figure that the total cost will be?

MR. PROUTY:—I said, I think, the first time I was ever examined that it ought to cost not less than $15,000,000 and not more than $20,000,000. Of course, the war has increased the cost of this work, just as it has increased the cost of everything else, both by impairing our efficiency and by increasing the price of everything; but we shall keep pretty close to that figure of $20,000,000. It may be a trifle exceeded, but it will not be much more.

THE CHAIRMAN:—What will be the cost of creating this division to do the work which you first spoke of, and what will be the cost of sustaining it from year to year afterwards?

MR. PROUTY:—I have discussed this matter more or less with my associates, and we think that it will require approximately one accountant and one engineer to every 10,000 miles of rail. That would amount to about 25 accountants and 25 engineers. These men will be in the field a large part of the time, or most of the time, and, in addition to that, we would require a certain office force. It would not be a large office force, but how large it would be, I can not say. We

would require one man who would be at the head of the work and who probably would be an engineer, and then we should require probably five or six clerical men and whatever stenographic force would be necessary.

THE CHAIRMAN:—Have you come to any rough estimate of that cost?

MR. PROUTY:—Yes, sir; in my own mind I have said that it would cost somewhere in the vicinity of $350,000 or $400,000 a year.

THE CHAIRMAN:—There is a limit upon the total activities of this nation, and, manifestly, to the extent that it is needed all activities ought first to be directed to matters directly and primarily concerned with winning the war. Now, having that in mind, what have you to say as to the desirability or undesirability of slowing down your valuation work at this time?

MR. PROUTY:—I have very carefully considered that question, and I do not think that this nation has arrived at the point where it is necessary to do that. It would add very much to the expense of the work to attempt to slow it down.

This augmentation of forces is a thing which has got to be done. If it is not done by the bureau of valuation it has got to be done by the director general. Now, my proposition has been to take one of the bureaus which we have had within the bureau of valuation and which we will call our Cost bureau and make that the nucleus of this new force.

THE CHAIRMAN:—Right now the railroads are in point of fact duplicating your work?

MR. PROUTY:—They are, and they are going to stop it; if they do not stop it, they are going to pay for it themselves. The director general is not going to permit them to pay that out of the operating expenses.

THE CHAIRMAN:—What will be said of their claim to protect themselves against a false conclusion touching valuations?

MR. PROUTY:—They ought unquestionably to have that right. They will undoubtedly be allowed to use the operating expenses for the purpose of presenting their data, but if they wish to contest in the courts or before the commission the correctness of the government's valuation it will be done by the corporations and out of the corporate funds and not at the expense of the government.

Status of Work

THE CHAIRMAN:—What, Mr. Commissioner, has been the work of your valuation department recently?

MR. PROUTY:—We have been at work during the last winter in the south on the Atlantic Coast Line, the Seaboard Air Line, the Norfolk & Western, and on the Louisville & Nashville. In the East we have finished New England. We will be at work next summer on the Pennsylvania, the Philadelphia & Reading, the Lehigh Valley, the Erie, the New York Central, and, to some extent, on the Lackawanna. West of Pittsburgh we have completed our work on the Pennsylvania lines. We have completed our work on the Big Four. We have substantially completed our work on the Great Northern, the Santa Fe, and the Rock Island. We are at work on the Northern Pacific. We are at work on the Burlington. We have completed our work on the Puget Sound line of the St. Paul, and we are at work on its eastern lines. I do not think there is a considerable railroad system in the United States upon which our work is not well advanced, with two exceptions.

SUMMARY

Mileage Completed

	Total mileage
Eastern district	13,555
Southern district	20,702
Central district	19,145
Western district	28,657
Pacific district	34,935
Total	116,994

Mileage Partially Completed

	Total mileage	Miles completed
Eastern district	24,572	12,459
Southern district	19,080	12,795
Central district	22,390	10,625
Western district	17,876	11,152
Pacific district	15,485	5,139
Total	99,403	52,170

THE CHAIRMAN:—Speaking of all the roads in connection with the field work, what percentage of the work do your consider now completed?

MR. PROUTY:—I would say that our field work was completed on the average for about 175,000 miles with probably 75,000 miles more to finish.

Farewell from E. P. Ripley to Sante Fe Employees

E. P. RIPLEY, president of the Atchison, Topeka & Santa Fe, has decided to remain president of the company, and manage its corporate affairs. This means, of course, that he gives up the operation of the property. W. B. Storey, vice-president in charge of operation, has been appointed federal manager.

Mr. Ripley has written the following "Good-bye" to the employees of the road, which will be published in the current issue of the Santa Fe Employees' Magazine:

"CHICAGO, June 21, 1918.

"ALL EMPLOYEES:

"For some years it has been apparent that it would soon be my duty to resign the active management of the Santa Fe, but, at the urgent request of our directors and my subordinates, I have postponed taking the step, the more readily because of the personal relations existing between us.

"The time seems now to have arrived, however, when my services as executive are of little value and when I can retire with the best grace and the least friction, and I therefore resigned the active management at the June meeting of the board of directors, closing a term of service with the operating affairs of the company of practically twenty-two and a half years.

"The memories of this long period are varied. We have jointly sought to make the Santa Fe a model—the extent to which we have succeeded is not for us to say, but we surely are not called on for apology. The daily contact with all of you has been instructive; hidden springs of motive and of principle have been revealed and unsuspected angles of character developed, and human nature has stood forth as a cleaner, brighter and sweeter thing than it ordinarily is painted.

"Although the Santa Fe is now merged with other roads as a government enterprise, I am bold enough to hope for it that it will retain some of its old characteristics—that its employees shall be both courteous and efficient and its service of the best as heretofore; that relations with its neighbors shall continue good and that each employee shall render to the government the same loyal service he has heretofore given the company.

"Mr. Storey is to be the federal manager, and I bespeak for him the same loyalty that it has been my fortune to enjoy.

"For a time, at least, I shall in a sense still be related to the Santa Fe family, in charge of the interests of the stockholders, and shall always be happy to hear from my former associates—and so, good-bye.

"Yours truly, E. P. RIPLEY."

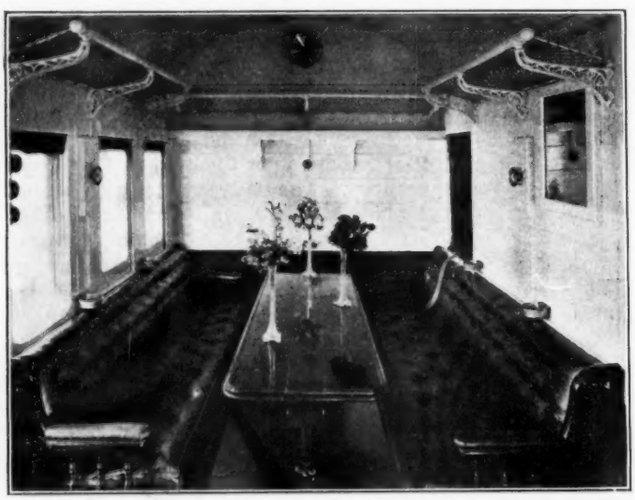
Ambulance Train Built by the Great Western Railway for American Forces

Two Ambulance Trains for the United States Army

The Great Western of England Has Built 14 Ambulance Trains; Has Also Repaired 25,700,000 Shell Cases

IN PURSUANCE of the general policy which the English railway companies have followed since the outbreak of war of assisting to meet the needs of the allied armies in the field in the manufacture of munitions of war and rolling stock, several complete ambulance trains have been built for the United States government. Two of them have been constructed by the Great Western Railway. The trains, which comprise 16 modern eight-wheel coaches, were constructed at the Swindon works and sent to France in January and March last.

The exterior of the trains is painted a khaki-green color,



Sick Officers' Car

with conspicuous red crosses on a white ground at each end of the coach and the letters "U. S." in red and white on either side. The interior is enamelled white throughout. Each train is 960 ft. in length (over buffers) and weighs 441 tons. It is composed of the following vehicles:

9 ward cars,
1 brake and infection car for lying down cases,
1 pharmacy car,
1 staff car,
1 personnel car for orderlies,
2 kitchen cars,
1 brake and stores car.

Altogether there is accommodation for 393 persons. In each of the cars there are 36 cots, arranged in 12 tiers of three each. There are four wards with six beds each in the brake and infection car and a dispensary, treatment and linen rooms, office and ward with 12 cots in the pharmacy car. Dining and sleeping accommodation for the staff is provided in the staff car. The kitchen cars are not only well-fitted and commodious, but contain sitting room and mess accommodation for sick officers, mess accommodation for the orderlies and a bath-room with hot and cold water. The orderlies' car, which in emergency could be used as a ward, contains accommodation for 33 persons. Each vehicle, except the brake and stores car, is fitted with lavatories.

Each coach is equipped with its own self-contained electric lighting installation, comprising a dynamo driven from a pulley on the axle of the vehicle, which generates the current and supplies the lamps and fans, while a battery of accumulators which are charged by the dynamo when the train is running supply the current required when it is standing.

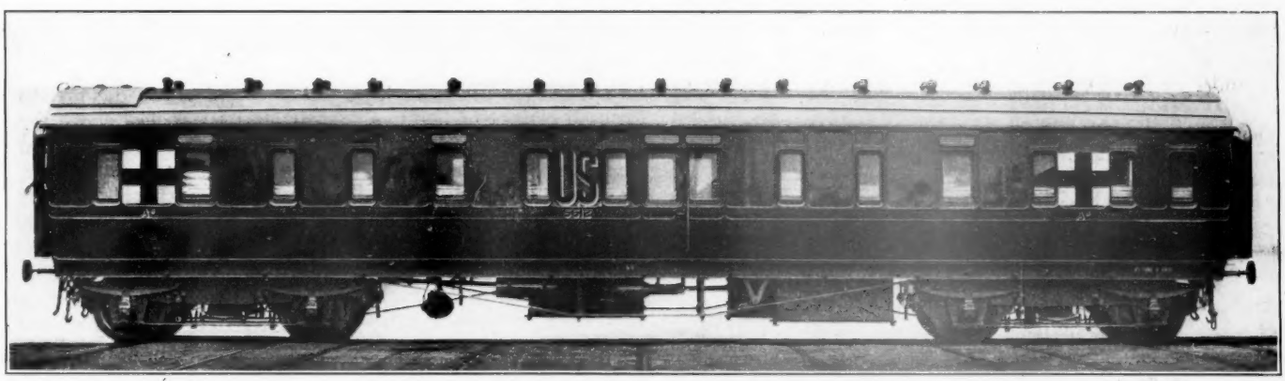
A feature of the steam-heating is that the staff and personnel cars are fitted with self-contained circulating hot-water apparatus for use when an engine is not attached to the train.

In addition to building two ambulance trains for the American Expeditionary Forces, four similar trains have been constructed at Swindon for use in England and eight for the allied armies in France or other theatres of war. A considerable number of guns and gun carriages have also been built there; and in a recent report prepared by the British Board of Trade special reference is made to Swindon works in connection with one particular item, viz., the repairing of cartridge cases. The department said that in order to get the very rapid fire required of the smaller guns —4.5 in. and 18-pounders—the cordite charge and shell are fitted into brass cartridge cases and handled in one piece. The field guns are cartridge-loaded just like rifles or machine guns. It would be very wasteful to throw away the valuable spent cases which, though often split and always needing to be renovated, are capable of being put to further use. The railway workshops have made a specialty of repairing and re-forming cartridge cases and have put down machinery for the purpose. It was out of the question to do the work with the existing plant, so an arrangement was

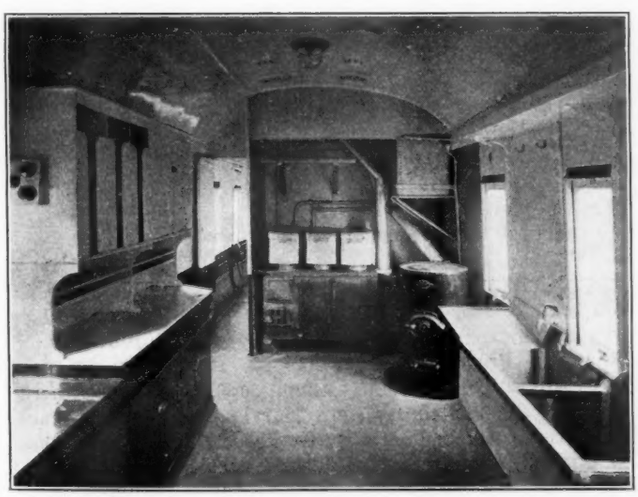
made with the War Office—and afterwards confirmed by the Ministry of Munitions—under which the government, at a cost of more than $500,000, installed the requisite plant and gave the companies an option to purchase it after the war at a valuation. With the aid of this specially provided machinery the railway workshops have "renovated" more than 22,000,000 18-pounder cases, brazed and repaired 2,000,000 18-pounder cases and renovated, brazed and repaired more than 1,700,000 4.5 in. cases. A good many fired cases, either split in firing or develop splits during the process of re-forming. As the result of experiments in the Great Western Railway works at Swindon, a process was devised by which these splits can be brazed and repaired. The system was approved, and at first restricted to 18-pounder cases, but subsequently it was extended to 4.5 in. split cases. By this means more than 2,000,000 cases have been replaced in effective use.

Ward Car Made Up

Ward Car for Sitting Cases



One of the Ward Cars for Train No. 55



The Kitchen

Pharmacy and Ward Car for Train No. 55

Standard Specifications for Cross Ties

STANDARD SPECIFICATIONS for cross ties have been adopted by the Central Advisory Purchasing Committee of the Railroad Administration on recommendation of the regional purchasing committees and approved by C. R. Gray, director of operation, and John Skelton Williams, director of finance and purchases. Shortly after the organization of the purchasing committees, orders were issued that railroads should buy ties only along their own lines and supply ties to other roads which could not secure their requirements in their own territory. This made it necessary to establish prices for ties and difficulty ensued because of the many variations in sizes and kinds. Under the standard specifications 10 grades have been adopted, including four sawed or hewed on all sides and six sawed or hewed only on top and bottom, in place of 30 or more odd sizes formerly bought.

Only the kinds of wood and ties now in use have been adopted, but some new methods have been introduced into the practice in connection with the handling and purchasing of ties. Where formerly the tie most generally used on a road or the largest size used was classed as grade No. 1, the grade numbers have been changed so that No. 1 applied to the smallest size and the grade numbers increase with the size, on the theory that a larger size tie than is now generally used may be introduced, but it is not likely that any smaller size will be used. The grading has also been arranged so that the bearing of the rail on the tie is the deciding factor instead of the cross section. This means that from a log of a given size the manufacturer will not be paid for the sap wood which he may leave upon it if the tie is sawed or hewed only at top and bottom. All sizes of ties are provided for in the specifications, which makes it possible to utilize all the logs in the tree or all the trees in a forest. These specifications are as follows:

Kinds of Wood. Before manufacturing ties, producers should ascertain from the railroad to which they contemplate delivering them just which of the following kinds of wood suitable for cross-ties will be accepted: ash, beech, birch, catalpa, cedar, cherry, chestnut, cypress, elm, fir, gum, hackberry, hemlock, hickory, larch, locust, maple, mulberry, oak, pine, redwood, sassafras, spruce, sycamore, and walnut. Others will not be accepted unless specially ordered.

Quality. All ties shall be free from any defects that may impair their strength or durability as cross-ties, such as decay, splits, shakes, or large or numerous holes or knots.

Ties from needleleaved trees shall be of compact wood, with not less than one-third summerwood when averaging five or more rings of annual growth per inch, or with not less than one-half summerwood in fewer rings, measured along any radius from the pith to the top of the tie. Ties of coarse wood, with fewer rings or less summerwood, will be accepted when specially ordered.

Ties from needleleaved trees for use without preservative treatment shall not have sapwood more than two inches wide on the top of the tie between 20 in. and 40 in. from the middle, and will be designated as "heart" ties. Those with more sapwood will be designated as "sap" ties.

Manufacture. Ties ought to be made from trees which have been felled not longer than one month.

All ties shall be straight, well manufactured, cut square at the ends, have top and bottom parallel, and have bark entirely removed.

Dimensions. Before manufacturing ties, producers should ascertain from the railroad to which they contemplate delivering them just which of the following lengths, shapes, and sizes will be accepted.

All ties shall be 8 ft. or 8 ft. 6 in. long.

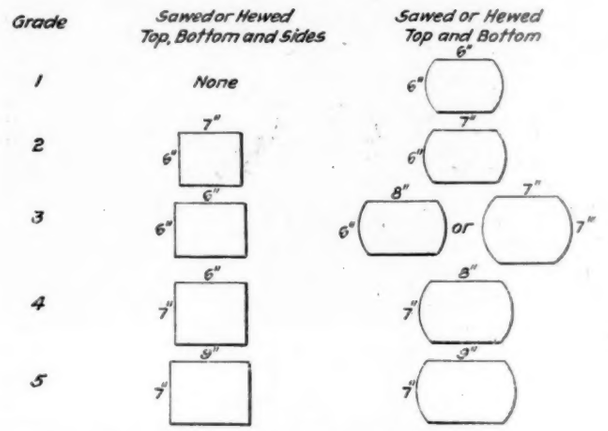
All ties shall measure as follows throughout both sections between 20 in. and 40 in. from the middle of the tie:

The above are minimum dimensions. Ties over one inch more in thickness, over three inches more in width, or over two inches more in length will be degraded or rejected.

The top of the tie is the plane farthest from the pith of the tree, whether or not the pith is present in the tie.

Delivery. All ties ought to be delivered to a railroad within one month after being made.

Ties delivered on the premises of the railroad shall be stacked not less than 10 ft. from the nearest rail of any track at suitable and convenient places; but not at public crossings, nor where they will interfere with the views of trainmen or of people approaching the railroad. Ties should



Standard Dimensions of Cross Ties by Grades

be stacked in alternate layers of two and seven the bottom layer to consist of two ties kept at least six inches above the ground. The second layer shall consist of seven ties laid crosswise of the first layer. When the ties are rectangular, the two outside ties of the layers of seven and the layers of two shall be laid on edge. The ties in layers of two shall be laid at the extreme ends of the ties in the layers of seven. No stack may be more than 12 layers high, and there shall be five feet between stacks to facilitate inspection. Ties may be ranked like cordwood, in which case the owner shall rehandle them while inspection is being made. Ties which have stood on their ends on the ground will be rejected.

All ties are at the owner's risk until accepted. All rejected ties shall be removed within one month after inspection.

Ties shall be piled as grouped below. Only the kinds of wood named in the same column may be piled together.

CLASS U—TIES WHICH MAY BE USED UNTREATED

Group Ua	*Group Ub*	*Group Uc*	*Group Ud*
Black Locust	"Heart" Pines	"Heart" Cedars	Catalpa
White Oaks	"Heart" Douglas Fir	"Heart" Cypress	Chestnut
Black Walnut		Redwood	Red Mulberry
			Sassafras

CLASS T—TIES WHICH SHOULD BE TREATED

Group Ta	*Group Tb*	*Group Tc*	*Group Td*
Ashes	"Sap" Cedars	Beech	Elms
Hickories	"Sap" Cypress	Birches	Hackberry
Honey Locust	"Sap" Douglas Fir	Cherry	Soft Maples
Red Oaks	Hemlocks	Gums	Spruces
	Larches	Hard Maples	Sycamore
	"Sap" Pines		White Walnut

Shipment. Ties shall be separated in the car according to the above groups and sizes as far as practicable.

A Forest Products Section has been organized by the Central Advisory Purchasing Committee with M. E. Towner, purchasing agent of the Western Maryland as manager, and with office in the Southern Railway building, Washington. The Forest Products Section devotes itself to such matters as specifications for lumber products, such as lumber for the cars recently ordered by the government, the distribution

of lumber to the car building plants and also the distribution of orders for ties from one region to another. Under the order that a railroad may not directly purchase ties off its own line, a railroad which cannot meet its own requirements in its own territory makes a requisition on the regional purchasing committee, which refers the matter to the Central Purchasing Committee, and the Forest Products Section acts as a clearing house. Fixed prices have been established for ties, but the prices have not been standardized because of the variation in local conditions.

Railroads Haul More Freight Than in 1917

THE RAILROADS DURING the month of April recovered from the effect of the difficult operating conditions experienced during January to such an extent that for the four months, January to April combined, they had handled an increase of 822,000,000 ton miles of revenue freight, or 7 per cent, as compared with the corresponding period of 1917, with 3.2 per cent less train miles, 7.4 per cent less car miles and 4.1 per cent less locomotive miles. This is shown by the summary of freight train operation statistics for April compiled by the Operating Statistics Section of the Railroad Administration in the form in which it was previously compiled by the Bureau of Railway Economics for the American Railway Association.

During April the revenue ton miles increased 8.9 per cent, with an increase of only 1.3 per cent in train miles, a decrease of .3 per cent in total car miles and 2.4 per cent more locomotive miles. The tonnage per train increased 6.9 per cent, and the average load per car increased 14.4 per cent, while the average mileage per locomotive per day increased 1.5 per cent, although the average car mileage per day decreased 5.1 per cent as compared with April, 1917. For the four months the increase in tonnage per train was 3.9 per cent and in car loading the increase was 10 per cent, although the average mileage for both locomotives and cars per day decreased.

For the three months including March the reports had shown a decrease in revenue ton miles of 2.6 per cent, although there had been an increase in March of 7.5 per cent and in February of 2.9 per cent. The decreases up to April 1, therefore, were attributable to the effect of the severe weather of January.

The series of reports which has now been taken over by

APRIL, 1918

Item	United States* 1918	1917	Increase or decrease Amount	Per cent	Eastern District 1918	1917	Increase or decrease Amount	Per cent
Freight train-miles	53,343,057	52,640,051	703,006	1.3	21,605,094	21,881,642	d 276,548	d 1.3
Loaded freight car-miles	1,262,987,607	1,334,832,399	d 71,844,792	d 5.4	560,571,383	597,725,723	d 37,154,340	d 6.2
Empty freight car-miles	594,166,634	526,980,486	67,186,148	12.7	259,373,142	246,251,997	13,121,145	5.3
Total freight car-miles—loaded and empty	1,857,154,241	1,861,812,885	d 4,658,644	d 0.3	819,944,525	843,977,720	d 24,033,195	d 2.8
Freight locomotive-miles	62,066,394	60,586,700	1,479,694	2.4	26,815,685	26,650,893	164,792	0.6
Revenue ton-miles	34,250,247,914	31,464,837,365	2,785,410,549	8.9	16,508,678,157	15,274,029,164	1,234,648,993	8.1
Non-revenue ton-miles	2,878,388,826	2,815,055,292	63,333,534	2.2	925,585,305	918,048,547	7,536,758	0.8
Average number of freight locomotives in service	30,421	30,141	280	0.9	13,149	12,860	289	2.2
Average number of freight locomotives in or awaiting shop	4,667	4,336	331	7.6	2,161	1,953	208	10.7
Average number of freight cars in service	2,387,670	2,271,359	116,311	5.1	1,272,456	1,213,745	58,711	4.8
Average number of freight cars in or awaiting shop	122,149	127,737	d 5,588	d 4.4	71,627	69,601	2,026	2.9
Home	71,098	97,351	d 26,253	d 27.0	40,383	52,683	d 12,300	d 23.3
Foreign	51,051	30,386	20,665	68.0	31,244	16,918	14,326	84.7
Tons per train	696	651	45	6.9	807	740	67	9.1
Tons per loaded car	29.4	25.7	3.7	14.4	31.1	27.1	4.0	14.8
Average miles per locomotive per day	68.0	67.0	1.0	1.5	68.0	69.1	d 1.1	d 1.6
Average miles per car per day	25.9	27.3	d 1.4	d 5.1	21.5	23.2	d 1.7	d 7.3
Per cent of empty car-miles	32.0	28.3	3.7	13.1	31.6	29.2	2.4	8.2
Per cent of freight locomotives in or awaiting shop	15.3	14.4	0.9	6.3	16.4	15.2	1.2	7.9
Per cent of freight cars in or awaiting shop	5.1	5.6	d 0.5	d 8.9	5.6	5.7	d 0.1	d 1.8
Revenue ton-miles:								
Per freight locomotive	1,125,875	1,043,921	81,954	7.9	1,255,508	1,187,716	67,792	5.7
Per freight car	14,345	13,853	492	3.6	12,974	12,584	390	3.1
Average miles operated—single track	217,784.02	217,336.43	447.59	0.2	57,272.24	57,468.93	d 196.69	d 0.3

d Decrease. * The returns included in the monthly statement represent about 94 per cent of the total operated mileage of the roads of Class 1.

Item	Southern District 1918	1917	Increase or decrease Amount	Per cent	Western District 1918	1917	Increase or decrease Amount	Per cent
Freight train-miles	10,017,899	9,012,808	1,005,091	11.2	21,720,064	21,745,601	d 25,537	d 0.1
Loaded freight car-miles	220,159,441	211,309,260	8,850,181	4.2	482,256,783	525,797,416	d 43,540,633	d 8.3
Empty freight car-miles	108,909,477	89,603,759	19,305,718	21.6	225,884,015	191,124,730	34,759,285	18.2
Total freight car-miles—loaded and empty	329,068,918	300,913,019	28,155,899	9.4	708,140,798	716,922,146	d 8,781,348	d 1.2
Freight locomotive-miles	11,275,534	10,101,108	1,174,426	11.6	23,975,175	23,834,699	140,476	0.6
Revenue ton-miles	5,995,296,818	5,334,863,620	660,433,198	12.4	11,746,272,939	10,855,944,581	890,328,358	8.2
Non-revenue ton-miles	516,181,108	479,285,431	36,895,677	7.7	1,436,622,413	1,417,721,314	18,901,099	1.3
Average number of freight locomotives in service	5,147	5,049	98	1.9	12,125	12,232	d 107	d 0.9
Average number of freight locomotives in or awaiting shop	603	603	.....	...	1,903	1,780	123	6.9
Average number of freight cars in service	348.992	284,456	64,536	22.7	766,222	773,158	d 6,936	d 0.9
Average number of freight cars in or awaiting shop	14,536	16,932	d 2,396	d 14.2	35,986	41,204	d 5,218	d 12.7
Home	8,538	12,830	d 4,292	d 33.5	22,177	31,838	d 9,661	d 30.3
Foreign	5,998	4,102	1,896	46.2	13,809	9,366	4,443	47.4
Tons per train	650	645	5	0.8	607	564	43	7.6
Tons per loaded car	29.6	27.5	2.1	7.6	27.3	23.3	4.0	17.2
Average miles per locomotive per day	73.0	66.7	6.3	9.4	65.9	65.0	0.9	1.4
Average miles per car per day	31.4	35.3	d 3.9	d 11.0	30.8	30.9	d 0.1	d 0.3
Per cent of empty car-miles	33.1	29.8	3.3	11.1	31.9	26.7	5.2	19.5
Per cent of freight locomotives in or awaiting shop	11.7	11.9	d 0.2	d 1.7	15.7	14.6	1.1	7.5
Per cent of freight cars in or awaiting shop	4.2	6.0	d 1.8	d 30.0	4.7	5.3	d 0.6	d 11.3
Revenue ton-miles:								
Per freight locomotive	1,164,814	1,056,618	108,196	10.2	968,765	887,504	81,261	9.2
Per freight car	17,179	18,755	d 1,576	d 8.4	15,330	14,041	1,289	9.2
Average miles operated—single track	37,035.46	36,797.02	238.44	0.6	123,476.32	123,070.48	405.84	0.3

d Decrease. * The returns included in the monthly statement represent about 94 per cent of the total operated mileage of the roads of Class 1.

COMBINED FOUR MONTHS JANUARY TO APRIL, INCLUSIVE

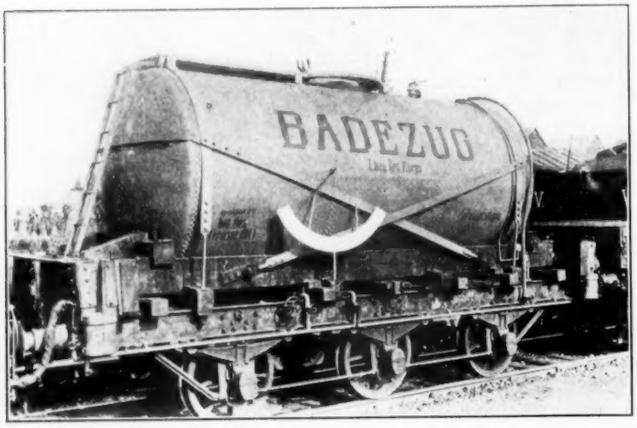
Item	United States* 1918	United States* 1917	Increase or decrease Amount	Increase or decrease Per cent	Eastern District 1918	Eastern District 1917	Increase or decrease Amount	Increase or decrease Per cent
Freight train-miles	204,256,280	211,018,455	d 6,762,175	d 3.2	79,581,086	87,120,021	d 7,538,935	d 8.7
Loaded freight car-miles	4,548,743,210	4,981,889,488	d 433,146,278	d 8.7	1,885,278,982	2,200,886,338	d 315,607,356	d 14.3
Empty freight car-miles	1,949,701,377	2,035,149,293	d 85,447,916	d 4.2	853,569,139	960,187,624	d 106,618,485	d 11.1
Total freight car-miles—loaded and empty	6,498,444,587	7,017,038,781	d 518,594,194	d 7.4	2,738,848,121	3,161,073,962	d 422,225,841	d 13.4
Freight locomotive-miles	238,443,993	248,529,154	d 10,085,161	d 4.1	99,269,522	106,658,948	d 7,389,426	d 6.9
Revenue ton-miles	119,599,790,459	118,777,513,684	822,276,775	0.7	54,584,829,442	57,317,411,504	d 2,732,582,082	d 4.8
Non-revenue ton-miles	11,105,652,017	11,152,867,685	d 47,215,668	d 0.4	3,506,079,177	3,478,943,249	27,135,928	0.8
Average number of freight locomotives in service	30,401	30,025	376	1.3	13,066	12,787	279	2.2
Average number of freight locomotives in or awaiting shop	4,670	4,440	230	5.2	2,098	1,941	157	8.1
Average number of freight cars in service	2,353,318	2,263,848	89,470	4.0	1,232,878	1,200,576	32,302	2.7
Average number of freight cars in or awaiting shop	119,715	125,777	d 6,062	d 4.8	68,904	69,541	d 637	d 0.9
Home	76,686	98,235	d 18,549	d 19.5	42,904	52,045	d 9,141	d 17.6
Foreign	43,029	30,542	12,487	40.9	26,000	17,496	8,504	48.6
Tons per train	640	616	24	3.9	730	698	32	4.6
Tons per loaded car	28.7	26.1	2.6	10.0	30.8	27.6	3.2	11.6
Average miles per locomotive per day	65.4	69.0	d 3.6	d 5.2	63.3	69.5	d 6.2	d 8.9
Average miles per car per day	23.0	25.8	d 2.8	d 10.9	18.5	21.9	d 3.4	d 15.5
Per cent of empty car-miles	30.0	29.0	1.0	3.4	31.2	30.4	0.8	2.6
Per cent of freight locomotives in or awaiting shop	15.4	14.8	0.6	4.1	16.1	15.2	0.9	5.9
Per cent of freight cars in or awaiting shop	5.1	5.6	d 0.5	d 8.9	5.6	5.8	d 0.2	d 3.4
Revenue ton-miles:								
Per freight locomotive	3,934,074	3,955,954	d 21,880	d 0.6	4,196,896	4,482,475	d 285,579	d 6.4
Per freight car	50,822	52,467	d 1,645	d 3.1	44,274	47,742	d 3,468	d 7.3
Average miles operated—single track	220.357.42	220,238.73	118.69	†	57,189.66	57,457.27	d 267.61	d 0.5

d Decrease. * The returns included in the monthly statement represent about 94 per cent of the total operated mileage of the roads of Class 1.
† Less than one-tenth of one per cent.

Item	Southern District 1918	Southern District 1917	Increase or decrease Amount	Increase or decrease Per cent	Western District 1918	Western District 1917	Increase or decrease Amount	Increase or decrease Per cent
Freight train-miles	39,940,653	38,273,975	1,666,678	4.4	84 734,541	85,624,459	d 889,918	d 1.0
Loaded freight car-miles	837,399,922	861,689,141	d 24,289,219	d 2.8	1,826,064,306	1,919,314,009	d 93,249,703	d 4.9
Empty freight car-miles	396,446,054	372,758,654	23,687,400	6.4	699,686,184	702,203,015	d 2,516,831	d 0.4
Total freight car-miles—loaded and empty	1,233,845,976	1,234,447,795	d 601,819	†	2,525,750,490	2,621,517,024	d 95,766,534	d 3.7
Freight locomotive-miles	44,849,775	42,745,808	2,103,967	4.9	94,324,696	99,124,398	d 4,799,702	d 4.8
Revenue ton-miles	22,291,156,585	21,491,876,072	799,280,513	3.7	42,723,804,432	39,968,226,108	2,755,578,324	6.9
Non-revenue ton-miles	2,083,487,887	2,070,681,551	12,806,336	6.2	5,516,084,953	5,603,242,885	d 87,157,932	d 1.6
Average number of freight locomotives in service	5,161	5,067	94	1.9	12,174	12,171	3	†
Average number of freight locomotives in or awaiting shop	646	637	9	1.4	1,926	1,862	64	3.4
Average number of freight cars in service	348,916	290,562	58,354	20.1	771,524	772,710	d 1,186	d 0.2
Average number of freight cars in or awaiting shop	14,157	14,940	d 783	d 5.2	36,654	41,296	d 4,642	d 11.2
Home	9,099	11,671	d 2,572	d 22.0	24,683	31,519	d 6,836	d 21.7
Foreign	5,058	3,269	1,789	54.7	11,971	9,777	2,194	22.4
Tons per train	610	616	d 6	d 1.0	569	532	37	7.0
Tons per loaded car	29.1	27.3	1.8	.7	26.4	23.7	2.7	11.4
Average miles per locomotive per day	72.4	70.3	2.1	3.0	64.6	67.9	d 3.3	d 4.9
Average miles per car per day	29.5	35.4	d 5.9	d 16.7	27.3	28.3	d 1.0	d 3.5
Per cent of empty car-miles	32.1	30.2	1.9	6.3	27.7	26.8	0.9	3.4
Per cent of freight locomotives in or awaiting shop	12.5	12.6	d 0.1	d 0.8	15.8	15.3	0.5	3.3
Per cent of freight cars in or awaiting shop	4.1	5.1	d 1.0	d 19.6	4.8	5.3	d 0.5	d 9.4
Revenue ton-miles:								
Per freight locomotive	4,319,155	4,241,539	77,616	1.8	3,509,430	3,283,890	225,540	6.9
Per freight car	63,887	73,967	d 10,080	d 13.6	55,376	51,725	3,651	7.1
Average miles operated—single track	38,165.79	37,958.88	206.91	0.5	125 001.97	124,822.58	179.39	0.1

d Decrease. * The returns included in the monthly statement represent about 94 per cent of the total operated mileage of the roads of Class 1.
† Less than one-tenth of one per cent.

the Operating Statistics Section was inaugurated by the Railroads' War Board and the first issue was for April, 1917, but as the board did not begin its active work until the latter part of that month the first real comparison of the results obtained under its direction and under the direction of the Railroad Administration will be afforded by the report for May. The complete summary is given on this and the preceding page.



The "Water-Wagon" and Showers of a Hun Bath Train

Federal Appointments in the Southwestern Region

THE FEDERAL MANAGERS in the southwestern region have recently announced the appointments of their staffs effective July 1. As there have been far-reaching changes in the organization and personnel of the railroads in this territory, the new staffs will be of especial interest to readers of the *Railway Age*.

Southern Pacific-Gulf Coast Lines

W. B. Scott, federal manager of the Galveston, Harrisburg & San Antonio, the Texas & New Orleans, Morgan's Louisiana & Texas, the Louisiana Western, the New Orleans, Texas & Mexico, the St. Louis, Brownsville & Mexico, and the San Antonio & Aransas Pass, announces the appointment of G. S. Waid, vice-president and general manager of the Southern Pacific lines in Texas, as general manager of all the above-mentioned lines except the San Antonio & Aransas Pass, of which J. S. Peter, first vice-president and general manager under the former organization, is made general manager under the new arrangement. Gentry Waldo, general freight agent of the Southern Pacific Texas lines, has been appointed traffic manager of all lines under Mr. Scott's jurisdiction. Baker, Botts, Parker & Garwood, of Houston, Tex., have been appointed general solicitors of all lines, with headquarters at Houston, Tex., and I. A. Cottingham, special engineer of the Southern Pacific Texas lines, has been appointed chief engineer, with office at Houston. The purchasing agent for all of Mr. Scott's lines will be N. P. Randolph, purchasing agent of the Southern Pacific lines in Texas. Mr. Randolph will have headquarters at New Orleans, La.

G. R. Cottingham, secretary and auditor of the Southern Pacific, Texas lines, has been appointed general auditor of the Galveston, Harrisburg & San Antonio and the Texas & New Orleans, with headquarters at Houston, Tex. Three auditors also have been appointed, namely, G. B. Herbert, auditor of the Southern Pacific lines in Louisiana, who becomes auditor of Morgan's Louisiana & Texas and the Louisiana Western, with headquarters at New Orleans; J. W. McCullough, general auditor of the Gulf Coast lines, who becomes auditor of the New Orleans, Texas & Mexico and the St. Louis, Brownsville & Mexico, with headquarters at Houston; and J. W. Terry, secretary and auditor of the San Antonio & Aransas Pass, who becomes auditor of the same road under the new arrangement, with headquarters at San Antonio, Tex. Five local treasurers have been named as follows: C. B. Udell, treasurer of the Southern Pacific lines in Texas, becomes local treasurer of the Galveston, Harrisburg & San Antonio, with headquarters at Houston, Tex.; E. Dargan has been appointed local treasurer of the Texas & New Orleans, with office at Houston; St. D. J. DeBlanc, secretary and treasurer of the Southern Pacific lines in Louisiana, becomes local treasurer of Morgan's Louisiana & Texas and the Louisiana Western, with headquarters at New Orleans, La.; J. H. Lauderdale, treasurer and assistant secretary of the Gulf Coast lines, has been appointed local treasurer of the New Orleans, Texas & Mexico and the St. Louis, Brownsville & Mexico, with headquarters at Houston, Tex.; and Haden F. Smith, treasurer of the San Antonio & Aransas Pass, becomes local treasurer of that road, with headquarters at San Antonio, Tex.

Texas & Pacific—International & Great Northern

J. L. Lancaster, federal manager of the Texas & Pacific, the Louisiana Railway & Navigation Company (lines west of the Mississippi river), the St. Louis Southwestern Railway of Texas, the International & Great Northern (excluding the line from Spring to Ft. Worth and the Madisonville branch), the Trinity branch of the Missouri, Kansas & Texas Railway of Texas, and the Beaumont & Great Northern; announces the appointment of Phil Carroll, general manager of the Texas & Pacific, as general manager of the first two of the above-named roads, and A. G. Whittington, general manager of the International & Great Northern, as general manager of the remaining lines. J. B. Payne, traffic assistant to the receivers of the Texas & Pacific, becomes traffic manager of all lines; George Thompson, general attorney of the Texas & Pacific, has been appointed general solicitor; E. F. Mitchell, chief engineer of the Texas & Pacific, becomes chief engineer; and R. L. Irwin, purchasing agent of the Texas & Pacific, becomes purchasing agent of all lines under Mr. Lancaster's jurisdiction.

A. J. Biard, auditor of the Texas & Pacific, has been appointed general auditor of the same road under the new organization, with headquarters at Dallas, Tex.; W. J. Werner, auditor of the International & Great Northern, retains that position under the new arrangement, with headquarters at Houston, Tex. A. R. Wood, assistant auditor of the St. Louis Southwestern of Texas, becomes auditor of the same road with headquarters at Tyler, Tex.; J. J. Tippin, secretary and auditor of the Louisiana Railway & Navigation Company, has been appointed auditor of the same line with headquarters at Shreveport, La.; O. H. Bower, auditor of the Missouri, Kansas & Texas of Texas and the Beaumont & Great Northern becomes auditor of the Trinity branch of the Katy and the B. & G. N. In addition the following local treasurers were appointed: L. S. Smith, assistant treasurer of the Texas & Pacific, becomes local treasurer of that road at Dallas, Texas; A. R. Howard, treasurer of the International & Great Northern, becomes local treasurer of that line with headquarters at Houston, Texas; J. W. Hogan, treasurer of the St. Louis Southwestern of Texas is made local treasurer of the same line at Tyler, Texas; L. M. McFarlin, treasurer of the Louisiana Railway & Navigation Company becomes local treasurer of that line with headquarters at Shreveport, La.; and R. P. Roach, treasurer of the Missouri, Kansas & Texas of Texas and the Beaumont & Great Northern becomes local treasurer of the latter road and of the Trinity branch of the Katy.

G. C. & S. F.—Frisco—Katy (in Texas)

J. S. Pyeatt, federal manager of the Gulf, Colorado & Santa Fe, the Ft. Worth & Rio Grande, the St. Louis-San Francisco & Texas, the Texas Midland, the International & Great Northern (from Spring to Ft. Worth and the Madisonville Branch), the Missouri, Kansas & Texas Railway of Texas, the Wichita Falls & Northwestern, the Ft. Worth & Denver City and the Houston & Texas Central, has appointed W. E. Maxson, general superintendent of the Gulf, Colorado & Sant Fe, as general manager of the first five of the afore-mentioned lines under his jurisdiction, while W. A. Webb, chief operating officer of the Missouri, Kansas & Texas lines, has been appointed general manager of the remaining lines under the jurisdiction of Mr. Pyeatt. J. L. West, freight traffic manager of the Missouri, Kansas & Texas system, has been appointed traffic manager of all the lines under Mr. Pyeatt, with headquarters at Dallas, Tex. J. W. Terry has been appointed general solicitor; F. Merritt, chief engineer of the Gulf, Colorado & Santa Fe, has been appointed chief engineer of all the lines under Mr. Pyeatt's jurisdiction; while J. E. Anderson has been appointed purchasing agent, all with headquarters at Dallas, Tex.

D. W. McLeod, auditor of the Gulf, Colorado & Santa Fe, retains that position, with headquarters in Galveston, Tex., and W. C. Logan, auditor of the Ft. Worth & Denver City, continues in that capacity with office at Ft. Worth. C. S. Snow, auditor of the Ft. Worth & Rio Grande, has been appointed auditor of that line and of the St. Louis-San Francisco in Texas. O. H. Bower continues as auditor of the

Missouri, Kansas & Texas of Texas, with headquarters at Dallas, and J. T. Mahaney remains auditor of the Wichita Falls & Northwestern with office at Wichita Falls, Tex. T. E. Corley, treasurer and auditor of the Texas Midland, has been appointed auditor of that line with headquarters at Terrell, Tex., and W. J. Werner continues as auditor of the International & Great Northern with office at Houston, Tex. G. R. Cottingham, secretary and auditor of the Southern Pacific Lines in Texas, has been appointed auditor of the Houston & Texas Central with office at Houston. The following local treasurers have been appointed: A. C. Torbert, formerly secretary and treasurer of the Golf, Colorado & Santa Fe, who will have headquarters at Galveston; W. O. Hamilton, secretary and treasurer of the Ft. Worth & Denver City, with offices at Ft. Worth; L. C. Wilds, treasurer of the Ft. Worth & Rio Grande, headquarters, Ft. Worth; R. P. Roach, treasurer of the Missouri, Kansas & Texas of Texas, office Dallas, Texas; A. W. Eichenberger, treasurer of the Wichita Falls & Northwestern, office Wichita Falls; A. R. Howard, treasurer for the receiver of the International & Great Northern, headquarters Houston; and C. B. Udell, treasurer of the Southern Pacific Lines in Texas, who becomes local treasurer of the Houston & Texas Central, with office at Houston.

Kansas City Southern Group

J. A. Edson, federal manager of the Kansas City Southern, the Texarkana & Ft. Smith, the Midland Valley, the Houston East & West Texas and the Vicksburg, Shreveport & Pacific announces the appointment of C. E. Johnston, general manager of the Kansas City Southern, as general manager of all the lines under his jurisdiction, with headquarters at Kansas City, Mo.; J. F. Holden, vice-president of the Kansas City Southern, has been appointed traffic manager of all of Mr. Edson's lines with headquarters at Kansas City; S. W. Moore, general solicitor of the Kansas City Southern, has been appointed to the same position for all of the lines, with office at Kansas City; J. M. Weir, chief engineer of the K. C. S., becomes chief engineer of all of Mr. Edson's lines, with office at Kansas City; and W. S. Atkinson, purchasing agent of the K. C. S., takes the same position for all of the lines under Mr. Edson's authority with headquarters at Kansas City.

L. J. Hensley, auditor of the Kansas City Southern, has been appointed general auditor of that road with headquarters at Kansas City; E. L. Parker, auditor and freight claim agent of the Texarkana & Ft. Smith, has been appointed auditor of that road with headquarters at Texarkana, Texas; A. W. Lefeber, vice-president and general manager of the Midland Valley, has been appointed auditor of that road with office at Muskogee, Okla.; G. R. Cottingham, secretary and auditor of the Southern Pacific lines in Texas, has been appointed auditor of the Houston East & West Texas with headquarters at Houston; and H. H. Leroy, auditor of the Alabama & Vicksburg, has been appointed auditor of the Vicksburg, Shreveport & Pacific with headquarters at New Orleans, La. H. Visscher, treasurer of the Kansas City Southern, has been appointed local treasurer of that road with office at Kansas City, Mo.; J. M. Salter, treasurer and paymaster of the Texarkana & Ft. Smith, becomes local treasurer of that road with office at Texarkana, Texas; E. L. Dubois, assistant treasurer and purchasing agent of the Midland Valley, becomes local treasurer of that road with office at Muskogee, Okla.; C. B. Udell, treasurer of the Southern Pacific lines in Texas, has been appointed local treasurer of the Houston East & West Texas with office at Houston, Texas; and Udolpho Wolfe, secretary and treasurer of the Alabama & Vicksburg, has been appointed local treasurer of the Vicksburg, Shreveport & Pacific with headquarters at New Orleans.

Katy-Frisco

L. Kramer, federal manager of the Missouri, Kansas & Texas and the St. Louis-San Francisco, has appointed B. T. Wood, vice-president of the Birmingham Belt Railroad, as assistant to the federal manager. He has named C. N. Whitehead, assistant to the receiver of the Missouri, Kansas & Texas, as general manager of that road, and J. M. Kurn, vice-president of the St. Louis-San Francisco, as general manager of that line. C. Haile, chief traffic officer of the Katy, has been appointed traffic manager of all the lines under Mr. Kramer's jurisdiction; W. F. Evans, general solicitor of the St. Louis-San Francisco, has been appointed to the same position for all the lines under Mr. Kramer. V. K. Hendricks, assistant chief engineer of the St. Louis-San Francisco, has been appointed chief engineer of all lines, while G. E. Scott, purchasing agent of the Missouri, Kansas & Texas, has been appointed purchasing agent for the federal manager. J. G. Livengood, general auditor of the Missouri Pacific, has been appointed general auditor of the Missouri, Kansas & Texas; R. S. Hoxie, auditor of the St. Louis-San Francisco, retains that position under the new organization. F. Johnson, general treasurer of the M., K. & T., has been appointed local treasurer of that line, and F. H. Hamilton, secretary and treasurer of the Frisco, becomes local treasurer of that road.

Missouri Pacific—Cottonbelt

A. Robertson, federal manager of the Missouri Pacific, the St. Louis-Southwestern and the Louisiana & Arkansas, has appointed M. C. Markham, assistant to the vice-president in charge of traffic of the Missouri Pacific, as assistant to the federal manager. J. F. Murphy, general manager of the Missouri Pacific, and W. N. Neff, general manager of the St. Louis-Southwestern, will retain their positions under the new organization. In addition Mr. Neff will have jurisdiction over the Louisiana & Arkansas. C. E. Perkins, freight traffic manager of the Missouri Pacific and C. L. Stone, passenger traffic manager of that railway, have been appointed to the same positions on all the lines under Mr. Robertson's jurisdiction. E. J. White, vice-president and general solicitor of the Missouri Pacific, has been appointed general solicitor, and H. R. Carpenter, assistant chief engineer of the Missouri Pacific, has been appointed chief engineer of all lines reporting to the federal manager. The purchasing agent of the federal manager's lines will be C. A. Howe, general purchasing agent of the Missouri Pacific. J. G. Drew, vice-president in charge of accounting of the Missouri Pacific, has been appointed general auditor of that road. R. D. Cobb, auditor of the St. Louis-Southwestern, and F. S. Carroll, auditor of the Louisiana & Arkansas, retain those positions under the new organization. F. M. Hickman continues as local treasurer of the Missouri Pacific, and G. K. Warner, treasurer of the St. Louis-Southwestern, and F. S. Carroll, auditor of the Louisiana & Arkansas, have been appointed local treasurers of their respective roads.

Rock Island Lines

J. E. Gorman, federal manager of the Chicago, Rock Island & Pacific and the Chicago, Rock Island & Gulf, has appointed T. H. Beacom, general manager of the second district of the C. R. I. & P. at El Reno, Okla., as general manager, with headquarters at Chicago. S. H. Johnson and L. M. Allen will continue as freight and passenger traffic managers respectively. W. F. Dickinson, general attorney, has been appointed general solicitor, while C. A. Morse, chief engineer and chairman of the valuation committee, and F. D. Reed, general purchasing agent, have been appointed chief engineer and purchasing agent respectively. W. H. Burns continues as general auditor of the Chicago, Rock Island & Pacific, and Henry Lucas as auditor of the Chicago, Rock Island & Gulf. Carl Nyquist, assistant secretary and assistant treasurer of the C. R. I. & P., has been appointed local treasurer of that road, while L. D. Parkinson, secretary and treasurer of the C. R. I. & G., has been appointed local treasurer of that line. All of the above-named officers will have headquarters at Chicago, Ill., with the exception of Messrs. Lucas and Parkinson, who will have headquarters at Ft. Worth, Texas

General News Department

Airplane letter carriers between New York and Philadelphia are reported to have missed only one trip in three weeks.

A fire at Napoleon, Ohio, on July 4, destroyed the roundhouse of the Detroit, Toledo & Ironton, together with four freight cars; and damaged ten locomotives; estimated loss $50,000.

The Boston Elevated Railway is now operated by a board of five trustees, appointed by the governor of the state, under a law recently passed by the legislature. The chairman of the board of trustees is L. A. Frothingham.

The Macon, Dublin & Savannah is now being operated by the government, according to an announcement made in Macon on June 26. The road has been looked upon as one of the "short lines" and its status has been in doubt.

The Interstate Commerce Commission's preliminary summary of railway returns for May, covering 123 roads, shows a net operating income of $61,000,000, as compared with $75,000,000 in May, 1917. The net operating income for five months was $110,000,000 less than the corresponding period of 1917.

A "Secretary of Transportation and Telegraph" is proposed in a bill to create a government department of transportation and telegraph, to administer the operation of the railways and telegraph lines, which was introduced in Congress on July 6 by Senator Lewis, of Illinois. The secretary would have a seat in the cabinet.

The proposed tunnel for automobiles between New York and Jersey City is the subject of bills which have been introduced in Congress by Senator Calder, of New York, and Representative Eagan, of New Jersey. These bills propose that the federal government contribute $6,000,000 and each of the two states interested—New York and New Jersey—$3,000,000.

The Kansas City, Mexico & Orient announces that its lines in Mexico are to be taken by the Mexican government and operated by it under a contract, for a period of years. It is understood that the contract will go into effect as soon as officers of the government have finished an inspection of the lines. It is proposed also to build an extension from Marquez to Presidio, on the Rio Grande, 72 miles.

The governor of Georgia, in his annual message to the legislature, on July 3, recommended that the State Railroad Commission be made a body of three members instead of five, and that it be changed into a corporation commission, having authority, including taxing power, over all corporations; the commissioners to be paid adequate salaries and to devote their whole time to the functions of their office.

The Pacific Railway Club has elected G. W. Rear, general bridge inspector of the Southern Pacific, president, to fill the vacancy caused by the resignation of P. P. Hastings, who has taken a position in the division of traffic of the United States Railroad Administration at Washington. W. R. Allberger, vice-president and general manager of the San Francisco-Oakland Terminal Railways, was elected first vice-president to succeed Mr. Rear.

The women employed on the Pennsylvania Railroad now number 10,248, or 1,481 more than on June 1. Women are working in 69 classified occupations on that road. There are six working on car repairs; 74 at cleaning locomotives; four as locomotive despatchers; 29 as draughtswomen; one is a coal inspector; 595 as laborers; 234 are messengers and assistant messengers; nine are drawbridge attendants; 38 work as freight truckers; one is a trackwoman; and 92 are employed as crossing watchwomen. Many other kinds of work are shown in the list, including 132 signalwomen and assistants.

Prices for rails, and also for other steel articles, were discussed at a conference in Washington last week between J. L. Replogle, chairman, and other members of a sub-committee on steel products of the War Industries Board, and a committee representing the American Iron & Steel Institute. Costs and conditions of manufacture in various branches were discussed, particularly with reference to rails, high speed tool steel and wire rope, and the possibility of substituting Bessemer for open-hearth steel for rails. The War Industries Board desired further information, which was to be submitted at another meeting this week.

Seven men arrested at St. Louis, on June 28, are charged with complicity in the theft of $100,000 worth of merchandise from box cars standing on the tracks of the Terminal Railroad Association, during the past six months. Five of the accused are railroad employees, including one yardmaster, and two are saloonkeepers. A switchman has made a confession which is said to have led to the recovery of automobile tires valued at $25,000. At Philadelphia, a man brought before the court for robbing freight cars, and who according to reports confessed to a long series of thefts was let off, on pleading guilty, with a fine of $300; and officers of the Railroad Administration at Washington are intimating that reprehensible leniency prevails in the courts. At Wilmington, Del., three alleged freight car robbers are held in $1,000 bail each. Cars in the yards of the Michigan Central, at Windsor, Ont., are said to have been robbed of $50,000 worth of merchandise during the past eight months. Two switchmen have been arrested at Windsor, charged with stealing from bonded cars; and 2,000 pairs of silk stockings are said to have been recovered.

First Government Standard Locomotive Built

On July 4 the first locomotive of the standard designs adopted by the Railroad Administration was completed by the Baldwin Locomotive Works. This locomotive is of the Mikado type with 55,000 lb. axle load, being one of the 183 included in the order given to that company. It will be assigned to the Baltimore & Ohio, and bears the name of that road on the tender.

Underground Mail Tubes Out of Service

The pneumatic tubes which have been used by the post-office department for conveying letters, for a number of years past, in Boston, New York, Philadelphia, Chicago and St. Louis, are now out of service, the appropriation bill providing for the continuance of the service until next March having been vetoed by President Wilson. The president said that he was convinced that the government was under no legal or moral obligation to continue the contracts with the owners of the tubes, and that, with the increasing efficiency of automobiles, the tube service had become out of date. In New York City the substitution of automobiles, in the streets, in place of the transportation by underground tubes, has been loudly complained of as a troublesome and unnecessary increase of congestion in streets which are crowded throughout the day. In Boston, on the other hand, it is said that since the substitution of automobiles for the tubes, the mails are closed 15 minutes later. The postmaster of Boston says:

"The superintendent of mails was able to reduce the closing time to fifteen minutes before train-departure time. Under the tube system it was impossible to make connection with trains in less than thirty minutes from the general post office. A single package of letters could be sent to the railroad terminals in a few seconds, but it was necessary to spend many minutes in assembling at the railroad stations all of the mail sent through the tubes; and there were five distinct handlings. Under the new arrangement we throw

all the mail on a given train into a mail bag at the central post office and we can despatch these sacks to the railroad terminal in five minutes; and when the mail arrives at the station it may be put aboard the train and no time is lost at the railroad terminals, as was the case under the old arrangement."

Railway Returns for April

Net operating income of the railways for the month of April was about $3,000,000 less than in April, 1917, and for the four months ending with April was $110,000,000 less than for the corresponding period of 1917, according to the monthly bulletin issued by the Interstate Commerce Commission. The net operating income for four months was $143,454,725, and after approximately $100,000,000 has been taken out for the four months' proportion of the wage increase it will have been reduced to approximately $43,000,000. The proposed guarantee to the railway companies for four months will amount to something over $300,000,000. Revenues, except mail revenues, show a large increase for April and for four months, but operating expenses for four months increased nearly one-fourth. Traffic expenses, however, show a decrease for four months of nearly $3,000,000, showing the effect of the discontinuance of solicitation. While the eastern roads show the largest reduction in net, the western and southern lines also show decreases for four months, but in April the southern lines showed an increase.

RAILWAY REVENUES AND EXPENSES, APRIL, 1918. (180 CLASS I ROADS AND 15 SWITCHING COMPANIES)

		United States				Eastern District			
		Amount		Per mile of road operated		Amount		Per mile of road operated	
	Item	1918	1917	1918	1917	1918	1917	1918	1917
1.	Average number miles operated	233,038.09	231,782.98	...	...	59,379.02	59,069.48	...	...
	Revenues:								
2.	Freight	$263,757,312	$227,943,184	$1,132	$832	$119,329,494	$100,423,784	$2,010	$1,700
3.	Passenger	72,452,520	60,363,082	311	260	30,554,366	26,742,392	514	453
4.	Mail	4,595,152	4,973,262	20	21	1,794,620	1,976,794	30	33
5.	Express	9,529,136	8,564,590	41	37	4,481,268	4,110,524	75	70
6.	All other transportation	10,092,773	9,490,733	43	41	5,504,058	5,288,966	93	90
7.	Incidental	9,805,912	7,776,212	42	34	5,295,338	4,313,801	89	73
8.	Joint facility—Cr.	524,804	337,184	2	2	296,145	154,824	5	2
9.	Joint facility—Dr.	142,880	119,756	1	1	71,089	80,862	1	1
10.	Railway operating revenues	$370,614,729	$319,328,491	$1,590	$1,377	$167,184,200	$142,930,223	$2,815	$2,420
	Expenses:								
11.	Maintenance of way and structures	$46,906,769	$38,651,179	$201	$167	$19,232,847	$15,223,983	$324	$258
12.	Maintenance of equipment	73,155,347	54,496,310	314	235	36,317,932	26,214,583	611	444
13.	Traffic	4,232,065	5,294,483	18	23	1,776,915	1,979,883	30	33
14.	Transportation	145,474,141	119,176,186	624	514	70,888,882	58,836,736	1,194	996
15.	Miscellaneous operations	2,973,136	2,743,159	13	12	1,406,437	1,223,904	24	21
16.	General	8,348,290	7,786,276	36	33	3,761,276	3,433,047	63	58
17.	Transportation for inv.—Cr.	434,293	520,927	2	2	59,060	62,835	1	1
18.	Railway operating expenses	$280,655,455	$227,626,666	$1,204	$982	$133,325,229	$106,849,301	$2,245	$1,809
19.	Net rev. from ry. operations	$89,959,274	$91,701,825	$386	$395	$33,858,971	$36,080,922	$570	$611
20.	Ry. tax accruals (excl. "war taxes")	$15,096,585	$14,213,740	$65	$61	$5,942,832	$5,779,866	$100	$98
21.	Uncollectible railway revenues	40,011	48,010	..	..	15,968	18,339	..	..
22.	Railway operating income	$74,822,678	$77,440,075	$321	$334	$27,900,171	$30,282,717	$470	$513
23.	Equipment rents	*$2,277,131	*$1,889,710	*$10	*$8	*$3,773,650	*$3,778,081	$*64	*$64
24.	Joint facility rent (dr. bal.)	1,147,564	1,108,821	5	5	668,337	746,314	11	13
25.	Net of items 22, 23 and 24	$71,397,983	$74,441,544	$306	$321	$23,458,184	$25,758,322	$395	$436
26.	Ratio of op. exp. to op. rev.	75.73%	71.28%	..	..	79.75%	74.75%	..	..

		Southern District				Western District			
		Amount		Per mile of road operated		Amount		Per mile of road operated	
	Item	1918	1917	1918	1917	1918	1917	1918	1917
1.	Average number miles operated	42,982.97	42,737.26	..	..	130,676.10	129,976.24	..	..
	Revenues:								
2.	Freight	$42,441,392	$35,303,276	$987	$826	$101,986,426	$92,216,124	$780	$710
3.	Passenger	13,114,522	8,931,009	305	209	28,783,632	24,689,681	220	190
4.	Mail	700,048	762,968	16	18	2,100,484	2,233,500	16	17
5.	Express	1,255,816	1,173,081	29	27	3,792,052	3,280,985	29	25
6.	All other transportation	981,612	777,676	23	18	3,607,103	3,424,091	28	26
7.	Incidental	1,340,790	860,571	31	20	3,169,784	2,601,840	24	20
8.	Joint facility—Cr.	118,413	78,785	3	2	110,246	103,575	1	1
9.	Joint facility—Dr.	24,811	22,753	..	..	46,980	16,141	..	..
10.	Railway operating revenues	$59,927,782	$47,864,613	$1,394	$1,120	$143,502,747	$128,533,655	$1,098	$989
	Expenses:								
11.	Maintenance of way and structures	$6,590,460	$5,692,265	$153	$133	$21,083,462	$17,734,931	$161	$136
12.	Maintenance of equipment	11,367,184	8,732,263	264	204	25,470,231	19,549,464	195	150
13.	Traffic	778,801	998,297	18	24	1,676,349	2,316,303	13	18
14.	Transportation	21,402,222	16,212,007	498	379	53,183,037	44,127,443	407	340
15.	Miscellaneous operations	282,842	262,974	7	6	1,283,857	1,256,281	10	10
16.	General	1,269,360	1,160,574	30	27	3,317,654	3,192,655	25	25
17.	Transportation for inv.—Cr.	59,682	105,938	1	2	315,551	352,154	2	3
18.	Railway operating expenses	$41,631,187	$32,952,442	$969	$771	$105,699,039	$87,824,923	$809	$676
19.	Net rev. from ry. operations	$18,296,595	$14,912,171	$425	$349	$37,803,708	$40,708,732	$289	$313
20.	Ry. tax accruals (excl. "war taxes")	$2,264,213	$2,138,817	$52	$50	$6,889,540	$6,295,057	$53	$48
21.	Uncollectible railway revenues	9,135	9,655	..	..	14,908	20,016	..	..
22.	Railway operating income	$16,023,247	$12,763,699	$373	$299	$30,899,260	$34,393,659	$236	$265
23.	Equipment rents	$450,666	$1,608,817	$10	$38	$1,045,853	†$279,554	$8	$2
24.	Joint facility rent (dr. bal.)	188,843	204,037	4	5	290,384	†158,470	1	3
25.	Net of items 22, 23 and 24	$16,285,070	$14,168,479	$379	$332	$31,654,729	$34,514,743	$243	$264
26.	Ratio of op. exp. to op. rev.	69.47%	68.85%	..	..	73.66%	68.33%	..	..

* Debit item. † Excludes figures for Colorado Midland, Missouri Pacific and Iron Mountain.

Disastrous Collision at Nashville

In a butting collision of passenger trains on the Nashville, Chattanooga & St. Louis at a point known as Dutchman's Bend, five miles west of Nashville, Tenn., on the morning of July 9, about 100 passengers were killed and as many more injured. As we go to press, the figures appear to be rough estimates.

Most of the killed and injured were on a local train from Nashville, which carried workmen going to a powder plant, most of them colored men. The other train was an express from the west, and, after the two engines had reared and fallen beside the track, the heavy coaches of the express plowed through the baggage car on the local train and demolished two other coaches. The crews of both locomotives were killed and the reports give no indication of the cause of the collision. There were a few women among the killed. Most of the white persons killed were in the smoking car of the local train. Among the killed were several soldiers and sailors.

G. R. Loyall, operating assistant of the Southern Regional Director, was sent by the Railroad Administration on Tuesday to the scene of the collision with instructions to make a full investigation and report for the Railroad Administration, supplementing the investigation by the Bureau of Safety of the Interstate Commerce Commission.

Work on Chicago Union Station Suspended

Work on the new $33,000,000 union station at Chicago has been suspended until after the war. This decision was reached at a conference between the city council's committee on railway terminals, representatives of the Chicago Railway Terminal Commission and representatives of the Railroad Administration, held in the office of the regional director of northwestern railroads, at Chicago, on July 3. The Twelfth street viaduct, work on which is under way, will probably be completed, and the Monroe street bridge is also expected to be finished. In addition, the double-deck viaduct on Canal street, from Taylor to Harrison streets, will probably be brought to completion in order to afford a freight outlet to the west and south sides. Between $1,000,000 and $2,000,000 will be expended in placing the streets now torn up in condition for use, restoring several of the other viaducts to their former condition and finishing up odds and ends so that the station program may be definitely discontinued until the war is over. Although no formal action was taken at the conference, the sentiment of the council committee was unanimous to meet the government's request that all possible work be stopped and only enough money spent to make conditions bearable during the period of the war.

Changes in M. C. B. Rules

The Master Car Builders' Association has issued Circular No. 1, dated June 22, making the following additions and amendments to the 1917 Code of the Rules of Interchange, all to become effective July 1, 1918. This is to encourage and facilitate repairs to cars under the present abnormal conditions.

Rule 86 (new paragraph).—M.C.B. standard 60,000 lb. capacity axle, with wheel seat less than the condemning limit for such axle, but above the condemning limit for non-M.C.B. standard axle, may be used until October 1, 1920, to replace M.C.B. standard 60,000 lb. capacity axle with wheel seat less than the condemning limit for such axle, but above the condemning limit for non-M.C.B. standard axle. (This paragraph abrogates the first interpretation shown under Rule 86, page 109.)

Rule 87 (new paragraph).—In order that repairs to cars may be expedited as fully as possible, foreign or private line cars may be repaired by the handling line by using material from their own stock instead of ordering material from car owner, as prescribed by Rule 122, in which event the repairing line is absolved from all responsibility for the cost of standardizing repairs thus made.

When wrong repairs are made using materials which the repairing line should carry in stock, as prescribed by Rule 122, defect card should be issued to cover both labor and material. (This provision supersedes the interpretations under Rule 122 in Circular No. 15, dated October 31, 1917, and Circular No. 19, dated December 20, 1917, and is also to be considered as an exception to Rule 13.)

Resolution for Telegraph Control

The resolution for government control of telegraph and telephone lines for the period of the war adopted by the House of Representatives on July 5, by a vote of 221 to 4, is making slow progress in the Senate. It authorizes the President to take over the properties by a procedure similar to that applied to the railroads. The Senate committee has reported it without recommendation and whether hearings will be held appears to be doubtful. It was amended by a committee of the House before its passage, to provide that government control shall not extend beyond the date of the proclamation of the President of the exchange of ratifications of the treaty of peace although the Secretary of War, the Secretary of the Navy and the Postmaster General, who have advocated the passage of the bill, had recommended that the period be left indefinite. The resolution was also amended in the House to provide that the compensation to the companies taken over shall be left to the President, and in the event of a dispute, 75 per cent of the amount shall be paid to the companies, giving them the right to resort to the courts for any additional amount.

The threatened strike of the operators employed by the Western Union Telegraph Company called for Monday, July 8, which was probably the cause of the administration's recommendation that the resolution be passed, was indefinitely postponed by the president of the Commercial Telegraphers' Union.

Wage Standardization Proposed

Standardization of wages paid by government departments and by contractors engaged in war work is proposed by the War Labor Policies Board, an advisory body composed of representatives of the government departments. This Board, finding that the uncoordinated competitive activities of government contractors have resulted in producing restlessness and wasteful movement of labor from one industry to another, and holding that all wages for both skilled and unskilled labor engaged in war work should be standardized, has resolved that wages paid by government departments and contractors engaged in war work should "after conference with representatives of labor and by industrial management be stabilized by this board."

The resolution was signed by Felix Frankfurter, chairman of the board, and by representatives of other government departments, including W. T. Tyler, assistant director of the division of operation of the Railroad Administration.

The Senate, in passing the sundry civil appropriation bill, on June 24, inserted an amendment providing an appropriation of $7,590,000 "to enable the Secretary of Labor during the present emergency to furnish such information and to render such assistance in the employment of wage-earners throughout the United States as may be deemed necessary in the prosecution of the war and to aid in the standardization of all wages paid by the government of the United States and its agencies." It was also provided that no money now or heretofore appropriated for the payment of wages not fixed by statute shall be available to pay wages in excess of the standard determined upon by the War Labor Policies Board.

Compressed Air Definitions

Upon the recommendation of its technical committee the Compressed Air Society has adopted the following definitions of certain compressed air terms in order to eliminate confusion as to their exact meaning.

Displacement—The displacement of an air compressor is the volume displacement by the net area of the compressor piston.

Capacity—The capacity should be expressed in cubic feet per minute and is the actual amount of air compressed and delivered, expressed in free air at intake temperature and at the pressure of dry air at the suction.

Volumetric Efficiency—Volumetric efficiency is the ratio of the capacity to the displacement of the compressor, all as defined above.

Compression Efficiency—Compression efficiency is the ratio of the work required to compress isothermally all the air delivered by an air compressor to the work actually done within the compressor cylinder as shown by indicator cards, and may be ex-

pressed as the product of the volumetric efficiency (the intake pressure and the hyperbolic logarithm of the ratio of compression), all divided by the indicated mean effective pressure within the air cylinder or cylinders.

Mechanical Efficiency—Mechanical efficiency is the ratio of the air indicated horsepower to the steam indicated horsepower in the case of a steam driven, and to the brake horsepower in the case of a power driven machine.

Overall Efficiency—Overall efficiency is the product of the compression efficiency and the mechanical efficiency.

The society further recommends that the use of other expressions of efficiency be discontinued.

Making Americans on the Railroad

This is the title of a pamphlet which has been issued by the Pennsylvania Railroad telling what has been done by that company in fitting foreign-born employees to become loyal and useful citizens of the United States. This subject has been given careful attention by the officers of the company for many years. The aim is to make America seem to these people a good place not merely to make money in, but to live in; and to induce them to adopt American standards and ways of living. The immediate object has been to make Italian, Greek, and other foreign track-laborers better and more intelligent workmen, understanding the instructions and counsels of their foremen, but patriotic considerations have not been neglected.

There are on the Pennsylvania Lines, East and West, over 33,000 men of foreign birth, which number, however, is much smaller than before the war. A correspondence course in Italian-English was established some years ago under the direction of a native born Italian, a graduate of Yale; and there is now a similar course on the lines West of Pittsburgh. These activities are already well-known to readers of the *Railway Age.*

On February 20, there were 4,307 students enrolled in the Italian-English course on the Lines East of Pittsburgh, or more than one-half of all the Italian employees.

In teaching foreign-born employees the use of English, they are required, in the course of their everyday work, to accustom themselves to speaking and thinking in the new tongue. Information especially intended for employees of alien birth is usually printed in English instead of in their own language. Practically every gang of workmen has at least one man besides the foreman who can read English. Printed information in English is deciphered by him and explained to the others, so that the double purpose is served of imparting useful information and at the same time giving a language lesson. Lectures on safety and similar subjects are always accompanied by lantern slides in which English words are used.

Early in the War, a considerable number of Mexicans were induced to enter the service. They are on the main line between Pittsburgh and New York. A special course in Spanish-English was prepared for the Mexicans, similar to the Italian-English course, and on February 28, there were 451 Spanish-speaking employees learning English in this way.

The Mexican laborers have been chiefly concentrated in camps where all modern features to promote sanitation and health are adopted; also provisions for amusements and recreation, including camp recreation rooms, victrolas, etc. Instructive entertainments are given, under the auspices of the Young Men's Christian Association. Wherever possible religious services for the Mexican employees are conducted under the direction of a Catholic church.

In addition to the language courses, instruction is provided, by correspondence, in electricity (including elementary mathematics) and in stenography. Altogether, out of approximately 166,000 employees on the Lines East of Pittsburgh, 18,769, or 10.7 per cent of the total, were on February 28, enrolled in the educational courses, including a considerable number of foreigners, especially men who have mastered the language work and so fitted themselves for advancement to foremen.

Numerous safety lectures are conducted solely for the benefit of alien employees, and a moving picture entitled, "The Americanization of Tony," is doing good service. This film has been exhibited to gatherings of foreign-born employees at eighty of the principal points along the road.

At the time when the First Liberty Loan was offered to the public, the Pennsylvania Lines East of Pittsburgh and Erie had a total of 25,827 employees who had been born in foreign countries. Of this number, 8,146 employees, or almost 32 per cent purchased Liberty Bonds, and this was within 2 per cent of the proportion of employees of American birth who subscribed.

The inquiry also brought out the interesting fact that there were in the service of the Pennsylvania Railroad, men of 42 different nationalities, besides native-born Americans, and that members of 30 alien races were included among the buyers of Liberty Bonds of the First Loan. This record may doubtless be confidently accepted as evidence of true love for America, no less than as a proof of a high degree of thrift on the part of the foreign born. As early as 1904, the Pennsylvania Railroad, with the idea of encouraging thrift among its foreign-born employees, opened a campaign to increase its Saving Fund depositors, and as a result a great many Italian and Irish employees opened accounts in the Company's Saving Fund, and large numbers of them are depositors today.

Of 25,721 aliens in the service of the Pennsylvania Lines East of Pittsburgh, it was found that 8,003 had been fully naturalized, 3,069 had taken out their first papers and 5,064 had definitely announced their intention of applying for naturalization. In other words, nearly 63 per cent of the total had either become United States citizens or had declared their intention of so doing.

On the Lines West a good showing was made.

Altogether, these experiences on the Pennsylvania have been encouraging. It is a clear duty to take care of the foreigners who come to these shores, to make life worth while for them here, and safeguard them from being spoiled and degraded.

A condition approaching the ideal will have been realized when "Little Italys" and other foreign colonies disappear from American cities and when the children of immigrants, instead of being known by the nationalities of their parents, will simply be American boys and girls.

Reorganization of A. W. Thompson's Territory

A. W. Thompson, federal manager of the Baltimore & Ohio, eastern lines and New York Terminals; the Western Maryland; the Cumberland Valley; the Cumberland & Pennsylvania, and the Coal & Coke, announces the organization of the "Potomac District," which consists of the following three divisions:

Cumberland Valley Division: Cumberland Valley Railroad, Western Maryland Railway between North Junction, Hagerstown, Md., and Shippensburg, Pa.; Edgemont, Md., and Quinsonia, Pa.; Philadelphia & Reading Railway between Shippensburg, Pa., and P. H. & P. Junction (Harrisburg, Pa.); Carlisle and Gettysburg, Pa.

Hagerstown Division: Western Maryland Railway from Virginia avenue, Cumberland, Md., to Baltimore, Md., except portion included in Cumberland Valley Division; Baltimore & Ohio Railroad, Weverton, Md., to Hagerstown, Md.

Elkins Division: Western Maryland Railway, Virginia avenue, Cumberland, to Elkins, W. Va., and Belington, W. Va.; Cumberland & Pennsylvania Railroad.

Mr. Thompson announces further that the Western Maryland, between City Junction, Cumberland, Md., and Connellsville, Pa., will be operated as a part of the Connellsvile division of the Baltimore & Ohio; that the Coal & Coke railway, which extends from Charleston, W. Va., to Elkins, W. Va., and branches, will be operated as a part of the Baltimore & Ohio; and that the Wheeling Terminal Railway, Martins Ferry, Ohio, to Bellaire Bridge, W. Va., and branches, will be operated as a part of the Wheeling Division. Officers and employees of the Wheeling Terminal will report to the superintendent of the Baltimore & Ohio at Wheeling.

He has also created the Charleston division, which embraces the railroad from Charleston to Elkins, W. Va., including branches, and that portion of the Monongah Division, Weston to Pickens and Richwood. The West Virginia district is extended to include this territory. Beginning July 10 the Western Maryland Terminals at Baltimore will be operated as a part of the Baltimore division of the Baltimore & Ohio.

Traffic News

The Interstate Commerce Commission has denied the petition of the Washington, Baltimore & Annapolis electric line for permission to increase its passenger fares to three cents a mile.

Inter-mountain shipping interests appeared before the freight traffic committee of western railroads, at Chicago, on July 9, in behalf of a readjustment of transcontinental freight rates to inter-mountain points with relation to rates to the Pacific Coast.

A request by the governor of New Jersey for a one-third fare for soldiers and sailors on short leave has been denied by the Railroad Administration. A rate of one-third of the regular fare is allowed for soldiers and sailors on regular furloughs, but it has been determined that an application of the order to men on short leave would result in imposing too great a burden on the railroads.

Production of bituminous coal during the week ending June 29 resulted in the second largest weekly production on record, according to the weekly bulletin of the Geological Survey. The output is estimated at 12,458,000 net tons, which represents an increase in the average production per working day over the preceding week of 3.8 per cent, and over the corresponding week of 1917 of 7½ per cent. The percentage of full time output lost during the week ending June 22 on account of car shortage was 10.6 per cent. The Fuel Administration has issued a statement saying that the Railroad Administration is now approximating 100 per cent efficiency in car movement for coal traffic. The total production of bituminous coal during the 12 weeks from the beginning of the coal year on April 1 until June 22, according to a bulletin by the Fuel Administration, was 137,705,000 tons.

Senator Frelinghuysen of New Jersey is curious to know why the Railroad Administration, in taking over the railroads to meet conditions growing out of the war, has assumed jurisdiction over the tubes of the Hudson & Manhattan Railroad, although it later relinquished from federal control most of the short line railroads of the country. Therefore, he introduced a resolution on the subject in the Senate on July 2, hoping to have the Senate assume the same curiosity; also as to why the fare between Jersey City and New York was increased by 100 per cent by order of the Director General, which increase was subsequently annulled, and why the fare between New York and Newark was increased from 17 cents to 27 cents. The resolution was adopted by the Senate on July 5. It instructs the Committee on Interstate Commerce to inquire "why these purely local lines were taken over; whether such taking over was in accordance with the spirit and letter of the act in question," and why the fares were raised.

A. H. Smith, regional director eastern railroads, has issued to all federal managers in his territory a vigorous appeal for increased efficiency in the movement of coal. Calling attention to the good records in May and early June, he says: "Since June 15 there has been a rapid decline in production, largely due to the decreased coal supply caused by the sluggish movement of coal cars both loaded and empty. It is of vital importance that our efforts be redoubled to secure an improved circulation of coal loading equipment. Unless we can succeed in doing this, there is no question but what we shall fail in our efforts to meet the program of the Fuel Administration. As this subject is of such importance, we feel justified in asking you to advocate it vigorously with all operating officers, so that we may be enabled to make a suitable improvement. Last year there was a gradual downward tendency of coal production during the six weeks ending with August. It is hoped that we can avoid a similar decrease this summer and that we shall be able to again bring our production up to what it was during the week ending June 15, maintaining that as a consistent level during the winter months. . . ."

Commission and Court News

Interstate Commerce Commission

The commission has authorized the American Railway Express Company to file simple abbreviated tariff supplements for the purpose of putting into effect promptly the 10 per cent increase in rates recently allowed.

Personnel of Commissions

Thomas A. Gillis has been appointed assistant to the secretary of the Interstate Commerce Commission.

W. P. Borland, assistant chief of the bureau of safety of the Interstate Commerce Commission, has been appointed chief of the bureau, succeeding H. W. Belnap, who resigned on July 1 to devote his entire time to the office of manager of the Safety Section of the Railroad Administration.

State Commissions

The Railroad Commission of Louisiana has authorized an advance of 25 per cent in all railroad rates within that state; this to permit the short line railroads to put their freight rates on a parity with those of the roads which are under federal control. The minimum charge for carload shipments prescribed by the director-general, is however, disapproved by the Louisiana Commission. On sugar cane, advanced 25 per cent, the minimum is to be 15 tons a car.

Court News

Measure of Damages for Delay of Freight

The Mississippi Supreme Court holds that where a carrier admitted unreasonable delay in the shipment of saws, but the articles were not damaged, and there was no fluctuation of their market value, the shipper could recover only the reasonable rental value for the time of the unreasonable delay.—New Orleans & N. E. v. J. H. Miner Saw Mfg. Co. (Miss.), 78 So., 577. Decided May 13, 1918.

Attractive Appliance Doctrine

The Louisiana Supreme Court holds that a railroad was not liable, under the attractive appliance doctrine, for the death of a little girl by drowning in a pool of water on the railroad's right of way, resulting from the dropping of drainage water from the culvert which let it through the roadbed, the pool being invisible from the street, on the other side of the tracks, and not accessible, or even visible, to children, unless they went on the tracks. For the application of the attractive appliance doctrine the thing must be so situated as to lure or attract children where they have a right and are likely to be, and the danger must be so obvious that a due regard for the safety of children necessitates taking precautions for their protection.—Fincher v. Rock Island (La.), 78 So. 433. Decided April 1, 1918.

Powers of Railroad Relief Associations

A railroad employees' relief association was incorporated to collect monthly dues to create a fund to treat and care for injured and diseased members, and to run a hospital and employ physicians, etc., but there was no provision in its certificate, constitution, or by-laws prohibiting the admission of non-members to the hospital. The association was able to secure the services of competent surgeons at small salaries by allowing them, when there was room in the association hospital, to take in non-members and collect from such patients fees for medical services. The Colorado Supreme Court holds that such receiving of non-member patients was within the general scope of the purposes of the association by implication, and was not ultra vires.—

Denver & Rio Grande Employees' Relief Assn. v. Rishmiller (Colo.), 171 Pac., 501. Decided March 4, 1918.

Measure of Damages Under Federal Employers' Liability Act

In an action for death under the Federal Employers' Liability Act the Louisiana Supreme Court, in determining the life expectancy of the deceased, a locomotive engineer, according to the expectation table constructed from the American Experience Table of Mortality, adopted the rule of the insurance companies of adding eight years to the age of the man because of his hazardous occupation. The formula adopted in this case for computing the present value of future benefits lost by the beneficiaries of the deceased employee in awarding compensation under the act was as follows, viz.: Subtract from the annual wages the employee was earning the annual cost of his maintenance according to the evidence, and multiply the remainder by the number of years of his life expectancy. The result discounted at the legal rate of 5 per cent for the term of the life expectancy, using annual periods or rests, is the loss of future benefits reduced to present value.—Jones v. Kansas City Southern (La.), 78 So., 568. Decided April 29, 1918.

Safety Appliance Acts—Employer's Liability

The Supreme Court of West Virginia, in the case of Ewing against the Coal & Coke Railway, holds:

1. Where an empty car marked "shop" is being switched from the yards of one carrier, where it had stood empty for several days, to the interchange track of a connecting carrier for the purpose of returning it to the latter, the owner thereof, for repairs, the switching being wholly within the state, an employee injured while engaged in the operation is not engaged in interstate commerce, though the car was forwarded promptly by its owner to its shop in another state for repair.
2. The mere use of the word "shop" on a car is not equivalent to a designation for haulage in interstate traffic.
3. Though the Federal Safety Appliance Act contains no express language conferring a right of action for the death or injury of an employee occasioned by a failure to comply with its requirements, a right of action therefor, nevertheless, is within the contemplation and intendment of the Act.
4. The requirements of the Federal Safety Appliance Act, as amended, are mandatory and embrace all cars used on any railroad that is a highway of interstate commerce, whether the particular cars are at the time employed in such commerce or not, and include employees injured through a failure to comply with its terms, even though engaged in duties unconnected with interstate commerce.
5. The maintenance of one grab iron on each side of the car, near one end, is not a compliance with section 4. . . .
6. The suspension clause of the order of the Interstate Commerce Commission, entered on March 13, 1911, did not operate to extend the time for equipping each car with four grab irons. . . .
7. The suspension clause did not relieve carriers from complying with the positive provision of the same order requiring four sill steps on each car, . . . but imposed an immediate duty to equip each car.
8. The grant of an extension of time was a valid suspension only for the purpose of deferring the standardization of sill steps and other appliances therein mentioned with respect to their exact location, dimensions and manner of application, and did not relieve from the necessity of equipping each car immediately with four secure sill steps of a kind and character reasonably adequate and sufficient to answer the object and purpose contemplated by the Federal Safety Appliance Act.
9. Though the immediate occasion for passing the laws requiring grab irons was undoubtedly "for greater security to men in coupling and uncoupling cars," yet these laws are not confined to the protection of employees only when so engaged. Carriers are liable to employees in damages whenever the failure to obey the Safety Appliance Acts is the proximate cause of injury to them when engaged in the discharge of duty.
10. The liability of an interstate railway to an employee injured through a violation of the commands of these statutes exists, although the employee when injured was engaged in returning the defective car to its owner for repairs.

Equipment and Supplies

The allotment of orders for the journal boxes for the government standard freight cars, as previously announced, has been changed. Journal boxes for 4,000 cars have been ordered from McCord & Co., and the order from the Haskell & Barker Car Company has been reduced from 8,000 to 6,000.

Locomotives

THE UNITED VERDE & PACIFIC, Jerome, Ariz., is inquiring for several saddle-tank locomotives.

Iron and Steel

THE CHICAGO & EASTERN ILLINOIS has ordered four girder spans for Milford, Ill., 445 tons, American Bridge Company.

THE CHICAGO, ROCK ISLAND & PACIFIC has ordered two 90-ft. turntables for Burr Oak, Ill., and Bureau, 114 tons, American Bridge Company.

Machinery and Tools

THE CHICAGO, ROCK ISLAND & PACIFIC is inquiring for eight machine tools.

THE LAKE ERIE & WESTERN is inquiring for about 10 miscellaneous tools.

THE UNION PACIFIC is inquiring for about 70 tools of miscellaneous description.

THE UNION PACIFIC is inquiring for delivery at Omaha, Neb., of two 2½-ft. radial drills.

THE NEW YORK, NEW HAVEN & HARTFORD has placed an order with the Brown Hoisting Machinery Company, of Cleveland, Ohio, for 10 locomotive cranes.

THE CHICAGO, BURLINGTON & QUINCY is inquiring for an 18-in. by 7-ft. 6-in. engine lathe; 14-in. by 4-ft. 6-in. lathe; 30-in. radial drill, double-end punch and shear with a 20-in. throat to punch 1-in. hole; 20-in. heavy-duty shaping machine, 1½-in. single-head bolt cutter, draw cut high-speed power saw, 50-lb. power hammer and a combination rip and cross-cut saw with boring attachment.

Signaling

THE SEABOARD AIR LINE has ordered a 16-lever Saxby & Farmer interlocking machine of the Union Switch & Signal Company for installation at Salem, N. C. The installation will be made by railroad forces.

THE PENNSYLVANIA RAILROAD has ordered an electro-mechanical interlocking for installation at Birmingham, N. J. The machine will consist of a 4-lever mechanical frame, with 7 electric units. It will be provided with electric detector locks on all switch levers and electric indication locks and electric light indicators on all working levers. The Union Switch & Signal Company will furnish this machine.

THE CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS has ordered from the Federal Signal Company an electric interlocking, to be installed by the manufacturers, at Bellefontaine, Ohio. The machine will have 68 working levers and there will be detector circuits and sectional route locking throughout. The machine will be type 4, direct current, with alternating current indication.

LONDON CARS MUST USE LESS COAL.—An order has been issued requiring all street railway companies in Great Britain to reduce their coal consumption by 15 per cent as compared with that of last year.

Supply Trade News

Lieut. J. G. Russell, of the Royal Flying Corps, formerly traveling inspector for the American Steel Foundries, with headquarters at Chicago, was killed in action on the Italian Front, June 15.

Eugene E. Lewis, vice-president and director of the Timken Detroit Axle Company, Detroit, Mich., recently resigned from that company to engage in work for the government at Washington. He is an assistant to Edward R. Stettinius.

L. C. Sprague, of the railroad department of the H. W. Johns-Manville Company, at New York, has been appointed special representative of the Chicago Pneumatic Tool Company in connection with the sale of pneumatic tools to railroads.

The Baldwin Locomotive Works, according to an announcement made last Tuesday, is planning the immediate construction of a new plant at East Chicago, with an estimated cost of $5,000,000. Specifications for various buildings are now out calling for 12,000 tons of structural steel.

A. S. Goble, sales representative of the Baldwin Locomotive Works and the Standard Steel Works at Chicago, has been appointed southwestern district representative of the same companies at St. Louis, Mo., succeeding **C. H. Peterson,** who has been transferred to the Chicago office as western district representative, effective July 1.

The Pittsburgh Testing Laboratory announces the removal, July 1, from its temporary quarters in the B. F. Jones Law building to its new office and laboratory buildings at 612-620 Grant street, Pittsburgh, Pa. The laboratories will be larger and better equipped than those in the company's old quarters, the P. T. L. building at Seventh and Bedford avenues, which were turned over to the government April 1.

The Quigley Furnace Specialties Company, Inc., has opened a branch office in Pittsburgh at 427 Oliver building, to handle the sale of powdered coal equipment and hytempite furnace cement. The powdered coal engineering department will be in charge of L. V. Marso, formerly maintenance engineer of the A. M. Byers Company plant at Girard, Ohio, and the specialties department will be taken care of by J. L. Cummings, Jr., formerly connected with the sales department of the company at New York.

American Car & Foundry Company

The gross volume of business done by the American Car & Foundry Company during the fiscal year ended April 30, 1918, is the largest in the history of that corporation—$121,839,328. The gross amount of business on the books at the beginning of the new fiscal year was $290,000,000. The volume of business done during the year in the manufacture and sale of miscellaneous supplies was much in excess of that of any prior year. A substantial portion of the profits realized from the business done has been absorbed in the payment of the taxes of various kinds imposed under federal legislation. The management has made timely and adequate provision for the payment of these taxes, and the company's obligation to the government in this regard was met without inconvenience or disarrangement of its financial program. Out of the net earnings of $11,281,742, there has been paid during the year the usual 7 per cent dividend ($2,100,000) upon the preferred capital stock. There has also been paid upon the common stock, quarterly, a regular dividend of 1 per cent with an extra dividend of like amount—this making 8 per cent ($2,400,000) paid in dividends upon the common stock during the fiscal year. Since the close of the year, the common stock has been put upon a regular 8 per cent basis.

The remainder of the net earnings for the year has been disposed of as follows: $1,000,000 has been added to the reserve for general overhauling, improvements and maintenance—which reserve had been drawn upon to the extent of $495,439 during the year; $2,400,000 has been added to the reserve for dividends on the common stock, to be paid when and as declared by the board of directors, making in this reserve a total of $4,800,000; $250,000 has been added to the reserve for improving working conditions of employees—from which reserve $171,007 was expended during the year; $500,000 has been added to the reserve for insurance; and $2,631,742 has been added to the surplus account. The company entered upon its new fiscal year with a net working capital of $22,670,175.

Assets		
Property and plant account		$66,782,532.51
Current assets		60,441,298.01
Materials on hand, inventoried at cost or less, and not in excess of present market prices	$28,786,593.65	
Accounts and notes receivable	21,691,056.14	
Stocks and bonds of other companies and liberty bonds, at cost or less	2,817,152.35	
Cash in banks and on hand	7,146,495.87	
		$127,223,830.52
Liabilities		
Preferred capital stock		$30,000,000.00
Common capital stock		30,000,000.00
Current liabilities		27,766,819.77
Accounts payable, and bills payable not due; provision for taxes; and pay rolls (paid May 10, 1918)	$26,641,819.77	
Dividend No. 77 on preferred capital stock (payable July 1, 1918)	525,000.00	
Dividend No. 63 on common capital stock (payable July 1, 1918)	600,000.00	
Reserve accounts		10,004,303.22
For insurance	1,500,000.00	
For general overhauling, improvements and maintenance	3,125,309.89	
For dividends on common capital stock, to be paid when and as declared by board of directors	4,800,000.00	
For improving working conditions of employees	578,993.33	
Surplus account		29,452,707.53
		$127,223,830.52

Trade Publications

SHAY GEARED LOCOMOTIVES.—The Lima Locomotive Works, Lima, Ohio, has issued a circular illustrating the Shay geared type of locomotive and enumerating the advantages which they possess over locomotives having side rods.

ELECTRIC METERS.—Bulletin No. 50 issued by the Economy Electric Devices Company, Chicago, illustrates and describes the Sangamo Economy electric meter and its application for regulating the power consumption of electric traction units. The advantage of proper acceleration and the savings to be effected thereby are clearly set forth.

INDUSTRIAL LIGHTING.—Scientific Industrial Illumination is the title of a 36-page, illustrated booklet recently issued by the Holophane Glass Company, 340 Madison avenue, New York City. The booklet is divided into four parts showing the need for correct lighting, the fundamental principles involved, and the various types of industrial lighting units manufactured by the Holophane company, The fourth section of the catalogue contains several reference tables and general engineering data.

AUSTRALIAN HARBOR CONSTRUCTION.—Considerable progress has been made with the harbor works at Port Kembla, New South Wales, the year's expenditure for which was £59,000 ($295,000). The sea wall was extended 355 ft., making the total length 1,457 ft. The power house is being extended for the purpose of adding facilities in the way of shipping plant and coal-loading appliances.

SCOTTISH RAILWAY STOCKHOLDERS' PROTECTION ASSOCIATION.—A revised circular of this association has been sent out by the Caledonian, North British and Highland Railways to their debenture holders. It shows that the executive of the association has been very much strengthened since the issue of the first circular. The association, the present address of which is 241 St. Vincent street, Glasgow, is to be formed into a limited liability company. Subscribers, therefore, need have no further anxiety about any further liability than the amount of their subscription, which is a single one, not annual, and ranges from 2s. 6d. to £1 1s. ($.60 to $5.25) the amount being at the member's option.

Financial and Construction

Railway Financial News

BOSTON & MAINE.—Representatives of the federal government are at work on a plan for reorganization of the Boston & Maine, according to an announcement sent on July 3, to note holders by J. P. Morgan & Co., Kidder, Peabody & Co., and Lee, Higginson & Co. In their opinion the proposed plan fully protects the interests of all holders of Boston and Maine securities. The bankers' announcement continues: "In view of this fact we believe that action on the part of the note holders to protect their interest is at present unnecessary, but should such occasion arise in the future we shall be glad to inform you." The original amount of notes was $27,000,000, of which there are now outstanding $13,306,060, a total of $13,693,940 having been paid off.

CANADIAN NORTHERN.—Notes of the Canadian Northern to the amount of $5,700,000 maturing July 10 will be paid on that date at the Canadian Bank of Commerce, New York. These are the notes issued through Wm. A. Read & Co. a year ago.

CHICAGO, BURLINGTON & QUINCY.—C. T. Sturgis, general auditor of the company, has been elected a director to succeed George B. Harris, deceased, and C. W. Bunn, general counsel of the Northern Pacific has been elected a director to succeed J. M. Hannaford, who resigned to become federal manager of the Northern Pacific.

CHICAGO, ROCK ISLAND & PACIFIC.—At the regular monthly meeting of the directors, J. E. Gorman resigned as president and director, having been appointed federal manager of the road. Charles Hayden, the chairman of the finance committee, was unanimously elected president in Mr. Gorman's place. M. L. Bell, general counsel of the company, was elected a director to fill the vacancy in the board. At a meeting of the executive committee, held immediately after the directors' meeting, N. L. Amster was unanimously elected chairman of the executive committee.

OCILLA SOUTHERN.—This road which operates 110 miles of line between Perry, Ga., and Nashville, has been placed in the hands of receivers. M. W. Garbutt, of Fitzgerald, Ga.; J. A. J. Henderson, president of the Ocilla Southern, and Joseph F. Gray, general manager, have been named receivers.

Railway Construction

BALTIMORE & OHIO.—Contracts have been given by this company for improvements as follows: Ice house at St. George, S. I., N. Y., to the Youngstown Construction Co., New York City; additional tracks at tunnels at Wharton street, and Grays Ferry Road at Philadelphia, to the Empire Engineering Company, Baltimore, Md.; additional yard and shop building at Wilmington, Del., for the yard to the Empire Engineering Company, Baltimore; for the building to Frainie Brothers & Haigley, Baltimore; extension of yards at Bayview, Mt. Winans, Baltimore, and additional tracks at Claremont, to the Empire Engineering Company, Inc., Baltimore; thawing shed at Curtis Bay to the Surety Engineering Company, New York; passing sidings at Tuscarora, Germantown, and Metro South Junction, Md., W. J. Torrington, Philadelphia, Pa.; ice house and roundhouse at Brunswick, Md., to Frainie Brothers & Haigley, Baltimore; repair shops at Cumberland, Md., to Westinghouse, Church, Kerr Co., Inc., New York; additional yard tracks at Keyser, W. Va., to the James F. McCabe Company, Baltimore, Md.; addition to roundhouse at Grafton, W. Va., to Frainie Brothers & Haigley, Baltimore; storage tracks at Flemington, W. Va., to the Empire Engineering Company, Inc., Baltimore; heavy repair shop at Glenwood, Pa., to Westinghouse, Church, Kerr & Co., New York; extension of second track at Evans, Pa., to James F. McCabe Company, at Baltimore, and for the company's houses at Holloway, O., to the Drum Construction Company, Chicago.

Railway Officers

Executive, Financial, Legal and Accounting

W. S. Morris, treasurer of the Georgia Railroad, has been appointed local treasurer, with office at Augusta, Ga.

Howard Bruner has been appointed freight claim agent, of the Oregon Short Line, with office at Salt Lake City, Utah, succeeding **A. R. McNitt** who has accepted service with the Union Pacific.

Louis W. Hill, chairman of the board of the Great Northern, was elected president of that road, at a meeting of the board of directors, on July 5, succeeding **W. P. Kinney,** who was recently appointed federal manager.

Dameron Black, auditor of the Atlanta, Birmingham & Atlantic, continues as auditor of that road, and has been appointed auditor also of the Atlanta & West Point and the Western Railway of Alabama, with office at Atlanta, Ga.

W. H. Bruce, secretary and treasurer of the Atlanta & West Point and the Western Railway of Alabama, has been appointed local treasurer of the same roads and of the Atlanta, Birmingham & Atlantic, with office at Atlanta, Ga.

J. L. Seager, assistant general counsel of the Delaware, Lackawanna & Western, has been appointed general solicitor, with office at New York, and **A. D. Chambers,** secretary and treasurer, has been appointed local treasurer, with office at New York.

Richard H. Swartwout, whose election as president of the Norfolk Southern, with headquarters at New York City, has already been announced in these columns, was born on October 16, 1875, at Morristown, N. J. Mr. Swartwout began work as a clerk in the office of the Central of New Jersey, and shortly afterwards left the service of that road to go into other business. He subsequently was engaged in the banking business at New York, and in 1906 organized the firm of Swartwout & Appenzellar, New York, bankers and brokers, of which he is now the senior partner. Since 1913, he has served as vice-president of the Norfolk Southern until his recent election as president of the same road, as above noted. **J. H. Young,** his predecessor, is now federal manager of the Norfolk Southern, and the Virginian Railway.

R. H. Swartwout

R. R. Reed, assistant treasurer of the Pennsylvania Western Lines, has been appointed treasurer, with headquarters at Pittsburgh, Pa., effective July 2. **J. W. Orr,** controller, has been appointed general auditor, with headquarters at Pittsburgh, effective on the same date.

E. M. Devereux, treasurer; **H. R. Preston,** general solicitor, and **J. J. Ekin,** general auditor of the Baltimore & Ohio, have been appointed to the same positions on the Baltimore & Ohio (eastern lines and New York terminals), the Western Maryland, the Cumberland Valley, the Cumberland & Pennsylvania, and the Coal & Coke, all with headquarters at Baltimore, Md.

H. W. Colson, general claim agent of the Atlanta, Birmingham & Atlantic, continues in the same position on that road under the United States Railroad Administration, and

also has been appointed general claim agent of the Georgia Railroad, the Atlanta & West Point, the Western Railway of Alabama, the Charleston & Western Carolina, and the St. Louis-San Francisco lines east of the Mississippi river, with office at Atlanta, Ga.

E. F. Parham, assistant treasurer and cashier of the Southern Railway at Washington, D. C., has been appointed treasurer under the United States Railroad Administration of the same road, and the Cincinnati, New Orleans & Texas Pacific, the Alabama Great Southern, the New Orleans & Northeastern, the New Orleans Terminal, the Alabama & Vicksburg, the Carolina, Clinchfield & Ohio, the Carolina, Clinchfield & Ohio of South Carolina, and the Georgia Southern & Florida, with headquarters at Washington, D. C.

M. M. Joyce, whose appointment as general solicitor of the Minneapolis & St. Louis, with headquarters at Minneapolis, Minn., was announced in these columns, on June 21, was born at Emmetsburg, Iowa, on April 29, 1877. Mr. Joyce received his legal training at the University of Michigan, graduating in 1900, following which he began the general practice of law. He entered the service of the Minneapolis & St. Louis, in February, 1910, as a member of the firm of Price & Joyce, district attorneys for that road, at Ft. Dodge, Ia. On June 1, 1917, he was appointed general attorney, of the M. & St. L., with headquarters at Minneapolis, Minn., which position he held until his promotion to general solicitor, in charge of the law department, succeeding **F. M. Miner,** general counsel, who retired from the service of the company.

M. M. Joyce

L. E. Jeffries, general counsel of the Southern Railway, at Washington, D. C., has been elected vice-president and general counsel of the Southern Railway and allied companies, with duties hereafter confined to the corporate interests of such companies; **S. R. Prince,** general counsel of the Mobile & Ohio, at Mobile, Ala., has been appointed general solicitor of the Southern, with headquarters at Washington, D. C.; **John K. Graves** and **H. O'B. Cooper,** solicitors of the Southern Railway, at Washington, D. C., have been appointed general attorneys, with headquarters at Washington; **Edward Colston,** general counsel at Cincinnati, Ohio, has been appointed general solicitor with jurisdiction over his present territory; **A. P. Humphrey,** general counsel at Louisville, Ky., has been appointed general solicitor at Louisville; **J. E. Hall** has been appointed assistant general solicitor, with headquarters at Macon, Ga.; **W. A. Henderson** has been appointed assistant general solicitor, with headquarters at Washington, D. C., and **E. P. Humphrey** has been appointed division counsel, with headquarters at Louisville, Ky.

The headquarters of the corporate officers of the Southern Railway, **Fairfax Harrison,** president; **H. B. Spencer** and **L. Green,** vice-presidents; **L. E. Jeffries,** general counsel; **E. H. Kemper,** comptroller, and **T. H. Gatlin** and **E. E. Norris,** assistants to the president, are to be removed about August 1 from the general offices of the railroad in Washington, D. C., to Richmond, Va., which is the legal headquarters of the company and the place where its annual meetings are held. The general office building in Washington is to be used for the operating headquarters of the company and a large part of the staff of the Railroad Administration is located there.

W. G. Lerch, assistant to the president of the Chicago Great Western, with headquarters at Chicago, was elected secretary of that road at a recent meeting of the directors. Mr. Lerch began his railway career in June, 1893, as stenographer in the general manager's office of the Duluth, Missabe & Northern. From January, 1894, to September, 1900, he was successively chief clerk to the vice-president of the above road; clerk in the general superintendent's office of the Chicago, St. Paul, Minneapolis & Omaha; clerk in the vice-president's office of the Missouri, Kansas & Texas at St. Louis, Mo., and chief clerk in charge of purchases of the Colorado Midland. He was then appointed secretary to the president of the Chicago & Alton, and in January, 1902, he was made chief clerk. He resigned on December 15, 1907, to join the staff of the president of the Mexican Central, and was later appointed assistant to **S. M. Felton,** who was president of that road. In June, 1909, he became acting president of the Tennessee Central at Nashville, Tenn., where he remained until October of the same year, at which time he returned to Chicago to become assistant to the president of the Chicago Great Western, which position he held until his election as secretary of that road, as mentioned above. **J. F. Coykendall,** who was secretary and treasurer of the Chicago Great Western, continues as treasurer of that company.

Operating

The appointments of the staffs of federal managers in the southwestern region are included in an article elsewhere in this issue.

The jurisdiction of **F. E. House,** general manager of the Duluth & Iron Range, has been extended over the Duluth, Missabe & Northern, effective July 8.

J. E. Elliott has been appointed superintendent of the Morris & Essex division of the Delaware, Lackawanna & Western, with office at Hoboken, N. J.

R. E. McCarty, resident vice-president of the Pennsylvania Western Lines, with headquarters at Detroit, Mich., has been appointed general manager, with headquarters at Pittsburgh, Pa.

C. A. Hawkins, superintendent, in charge of traffic, operation and accounting, of the Lewiston, Nezperce & Eastern, with headquarters at Lewiston, Idaho, has left the service of that company, effective June 24.

H. A. Kennedy, vice-president of the Minnesota Transfer, with headquarters at St. Paul, Minn., has been appointed terminal manager of the St. Paul and Minneapolis terminal, including the Minnesota Transfer, effective July 9.

P. W. Sullivan, superintendent of the Pennsylvania Lines West of Pittsburgh, with office at Akron, Ohio, has been appointed superintendent of the Indianapolis division, with office at Columbus, Ohio, vice **L. Ohliger, retired.**

G. R. Huntington, federal manager of the Minneapolis, St. Paul & Sault Ste. Marie, has had his jurisdiction extended to include the Duluth, South Shore & Atlantic, the federal manager of which, **W. W. Walker,** died a few days ago.

F. F. Small has been appointed trainmaster of the Salt Lake division, of the Southern Pacific, with headquarters at Mina, Nev., with jurisdiction over Mina sub-division, vice **G. H. Moore,** who has accepted service with the government.

C. E. Brower, superintendent of the Atlanta, Birmingham & Atlantic, at Fitzgerald, Ga., has been appointed general superintendent of the same road and the St. Louis-San Francisco lines east of the Mississippi river, with office at Atlanta.

Charles H. Hix, former president of the Norfolk Southern, has been appointed federal manager of the Norfolk & Portsmouth Belt Line and in addition will have jurisdiction over all Hampton Roads railroad terminals, with offices at Norfolk, Va.

R. K. Smith, vice-president and general manager of the Mississippi Central, has been appointed general manager of that road, of the New Orleans Great Northern and of the Mississippi Central, with headquarters at Hattiesburg, Miss., effective July 1.

W. Trapnell, superintendent of the Coal & Coke, with

headquarters at Elkins, W. Va., has been appointed superintendent of the Charleston division of the Baltimore & Ohio, with headquarters at Gassaway, W. Va. (See notice of reorganization, under general news.)

E. R. Rouzer, superintendent of car service of the Western Maryland, at Baltimore, Md., has been appointed superintendent of transportation of the same road, also of the Cumberland Valley and the Cumberland & Pennsylvania, with headquarters at Hagerstown, Md.

Charles A. Wickersham, general manager of the Georgia Railroad, at Augusta, Ga., and president and general manager of the Atlanta & West Point and the Western Railway of Alabama, has been appointed federal general manager of those roads, with headquarters at Atlanta.

C. C. Mitchell has been appointed acting trainmaster, of the Northern Pacific, with office at Livingston, Mont., succeeding **H. D. Mudgett,** who has been granted an indefinite leave of absence to serve as captain in the Engineering Corps of the American Expeditionary Forces.

J. E. Shull, transportation inspector on the Atchison, Topeka & Santa Fe, with headquarters at Trinidad, Colo., has been appointed assistant trainmaster of the Rio Grande division, with headquarters at Hurley, N. M., effective July 5, succeeding **J. F. Anton,** who has entered the army.

The circular announcing the appointment of **W. J. Jackson** as federal manager of the Chicago & Eastern Illinois and the Chicago, Terre Haute & Southeastern, incorrectly stated that he would also have charge of the Evansville & Terre Haute. The railroad meant was the Evansville & Indianapolis.

Paul F. Keating, assistant general superintendent of the Great Northern, with office at St. Paul, Minn., has been promoted to general superintendent, with office at Superior, Wis., succeeding **F. S. Elliott,** resigned, to go with another company; **C. E. MacLaughlin,** division superintendent at Minot, N. Dak., succeeds Mr. Keating, with office at St. Paul.

J. H. O'Neill, general superintendent of the Great Northern, with headquarters at Seattle, Wash., has been appointed terminal manager of the Puget Sound terminals, effective July 3. Mr. O'Neill will have charge of all terminal operations between Everett, Wash., and South Tacoma, and will report to the district director of the Puget Sound district.

E. B. Moffatt, has been appointed assistant to general manager of the Delaware, Lackawanna & Western, with office at New York; **H. H. Shepard,** superintendent of the Morris and Essex division at Hoboken, N. J., has been appointed general superintendent. with office at Scranton. Pa., and **T. E. Clarke** has been appointed general agent, with office at Scranton.

C. P. Dugan, superintendent of transportation of the Norfolk Southern, with office at Norfolk, Va., has been appointed superintendent of transportation of the Virginian Railway, with headquarters at Norfolk, and **H. W. Sheridan** has been appointed superintendent of the new River division, with headquarters at Princeton, W. Va., vice **Victor Parvin,** assigned to other duties. The office of general superintendent is abolished.

Herman J. Klein, superintendent of the Erie, at Meadville, Pa., has been appointed assistant general superintendent, lines east, with office at New York; **Edwin H. Buhlman,** trainmaster at Meadville, has been appointed superintendent of the Meadville division, vice Mr. Klein and **Robert H. Boykin,** assistant to superintendent of maintenance, at New York, has been appointed assistant superintendent of terminals, vice **R. M. Scott,** promoted.

L. A. David, assistant division superintendent of the Missouri Pacific, with headquarters at Atchison, Kan., has been promoted to superintendent of the southern Kansas division, with headquarters at Coffeyville, Kan. **T. W. Collins,** trainmaster at Osawatomie, Kan., has been promoted to superintendent of the Valley division, with headquarters at McGehee, Ark., succeeding **J. L. Kendall,** who has been transferred to the Memphis division, with headquarters at Wynne, Ark., effective July 5.

F. K. Mays has been appointed assistant to federal manager and purchasing agent, of the Atlanta, Birmingham & Atlantic, the Georgia Railroad, the Atlanta & West Point, the Western Railway of Alabama, the Charleston & Western Carolina, and the St. Louis-San Francisco, lines east of the Mississippi river, and **E. B. Rock, Jr.,** has been appointed superintendent of transportation on the same roads, both with headquarters at Atlanta, Ga. Mr. Mays was secretary, treasurer and purchasing agent, and Mr. Rock was superintendent of transportation of the Atlanta, Birmingham & Atlantic.

R. N. Begien, general manager, eastern lines, of the Baltimore & Ohio, has been appointed assistant to federal manager (operating) of the Baltimore & Ohio (eastern lines and New York Terminals); the Western Maryland; the Cumberland Valley; the Cumberland & Pennsylvania, and the Coal & Coke, with headquarters at Baltimore, Md. **J. M. Davis,** vice-president of the Baltimore & Ohio, with office at Baltimore, Md., has been appointed manager of the company's New York terminals, including the Staten Island Rapid Transit Company, with headquarters at New York City. **S. Ennes,** general manager of the Western Maryland, with office at Hagerstown, Md., has been appointed federal general manager of the Baltimore & Ohio, (eastern lines) and the Coal & Coke, with headquarters at Baltimore, Md. **M. C. Byers,** assistant to president of the Western Maryland, at Baltimore, Md., has been appointed federal general manager of the Western Maryland, the Cumberland Valley and the Cumberland & Pennsylvania, with headquarters at Hagerstown, Md. **H. B. Voorhees,** general superintendent of transportation of the Baltimore & Ohio, has been appointed general superintendent of transportation, under the United States Railroad Administration, of the Baltimore & Ohio, (eastern lines and New York Terminals) the Western Maryland, the Cumberland Valley, the Cumberland & Pennsylvania and the Coal & Coke, with headquarters at Baltimore, Md. **E. E. Hamilton** has been appointed assistant to federal manager of the same roads, with headquarters at Baltimore. See an item in General News regarding the reorganization of the operating department.

Traffic

Charles J. Haig, commercial agent of the Grand Trunk, at Philadelphia, Pa., having been assigned to other duties, the office of commercial agent at Philadelphia has been abolished.

Nat Duke, assistant freight traffic manager of the Delaware, Lackawanna & Western, at New York, has been appointed traffic manager, with office at New York.

Ernest Williams has been appointed assistant general freight and passenger agent of the Georgia Railroad and the Charleston & Western Carolina, with office at Augusta, Ga.

R. L. Simpson, general freight agent of the Southern Railway, at Washington, D. C., has been appointed assistant to traffic manager of the Georgia Southern & Florida, with headquarters at Washington.

A. O. Dawson, has been appointed district freight agent in charge of the consolidated agencies of the Southern Railway, and the Georgia Southern & Florida, at Jacksonville, Fla., succeeding **C. M. Tyler,** district freight agent of the Southern Railway, resigned to engage in other business.

A. Fries, assistant general freight traffic manager of the Baltimore & Ohio, at Baltimore, Md., has been appointed traffic manager of the Baltimore & Ohio (eastern lines and New York terminals), the Western Maryland, the Cumberland Valley, the Cumberland & Pennsylvania and the Coal & Coke, with headquarters at Baltimore, Md.

J. L. Edwards, traffic manager of the Atlanta, Birmingham & Atlantic, continues under the United States Railroad Administration as traffic manager of the same road, and has been appointed traffic manager also of the Georgia Railroad, the Atlanta & West Point, the Western Railway of Alabama, the Charleston & Western Carolina, and the St. Louis-San Francisco lines east of the Mississippi river, with headquarters at Atlanta, Ga.

C. D. Thompson, general agent of the Great Northern, with headquarters at Spokane, Wash., has been appointed district traffic agent at Portland, Ore., succeeding **R. K.**

Pretty, who has resigned to go with a shipbuilding company. **R. J. Smith,** district freight and passenger agent at Nelson, B. C., succeeds Mr. Thompson at Spokane. Mr. Smith will continue to have supervision over the Canadian territory, the office at Nelson having been abolished.

W. H. Johnson, manager of the Star Union Line, with headquarters at Chicago, has been appointed manager of the Pennsylvania Lines' tracing information bureau, with the same headquarters, and will keep on file all available passing reports and give attention to applications for tracing information. **George W. Smith,** foreign freight agent of the Star Union Line, has been appointed foreign freight representative of the Pennsylvania Lines West of Pittsburgh and will furnish upon application information pertaining to export and import traffic.

C. B. Kealhofer has been appointed general freight agent of the St. Louis-San Francisco lines east of the Mississippi river, the Atlanta & West Point, the Western Railway of Alabama, the Atlanta, Birmingham & Atlantic, the Georgia Railroad, and the Charleston & Western Carolina; **J. E. Tilford** and **G. E. Boulineau** have been appointed assistant general freight agents; **W. W. Croxton** has been appointed general passenger agent, and **E. H. Fell** has been appointed assistant general passenger agent of all the above roads; all with headquarters at Atlanta, Ga.

Engineering and Rolling Stock

W. A. James, engineer of construction of the Canadian Pacific, has been promoted to assistant chief engineer, with office at Winnipeg, Man., succeeding J. M. R. Fairbairn.

J. S. Allen, general foreman of the Canadian Pacific, at North Bay, Ont., has been appointed division master mechanic, of the Sudbury division, vice **C. A. Wheeler,** promoted.

W. F. Turner has been appointed division engineer of the Salt Lake division, of the Southern Pacific, with headquarters at Ogden, Utah, vice **Otis Weeks,** who has accepted service with the government.

Robert Trimble, chief engineer maintenance of way of the Pennsylvania Western Lines, Northwest systems, with headquarters at Pittsburgh, Pa., has been appointed chief engineer of construction, with the same headquarters, effective July 2. Mr. Trimble was born at Butler, Pa., and was educated at Western University of Pennsylvania. He began railway work in 1875, as a chainman of the Pennsylvania Company, since which he has served consecutively to 1903, in various positions in the engineering department and as principal assistant engineer of the same company. In 1903 he was appointed chief engineer maintenance of way of the same lines and now becomes chief engineer of construction, as above noted.

Robert Trimble

William Shea, roadmaster on the Ottumwa division of the Chicago, Milwaukee & St. Paul, with headquarters at Ottumwa, Iowa, has been promoted to general roadmaster, with jurisdiction over all lines east of Mobridge, S. D., and with headquarters at Chicago.

T. B. Farrington, assistant master mechanic of the Pennsylvania Western Lines, Southwest system, with headquarters at Columbus, Ohio, has been promoted to master mechanic of the Michigan division, with headquarters at Logansport, Ind., effective July 1, succeeding **J. R. Riggs,** transferred.

J. R. Riggs, general foreman of locomotive repairs on the Pennsylvania Western Lines, St. Louis system, with headquarters at Logansport, Ind., has been appointed master mechanic on the central system, Toledo division, with headquarters at Toledo, Ohio, succeeding **G. E. Sisco,** transferred, effective July 1.

R. D. McKeon, acting assistant division engineer, of the Pennsylvania Western Lines, Southwest system, with headquarters at Pittsburgh, Pa., has been appointed division engineer, of the Northwest system, with headquarters at Ft Wayne, Ind., succeeding Guy Scott who has entered military service, effective July 1.

C. H. Bilty, mechanical engineer of the Chicago, Milwaukee & St. Paul, with office at Milwaukee, Wis., has been appointed mechanical engineer on the staff of the regional director, Northwestern railroads, with office at Chicago, succeeding **W. R. Wood,** who returns to the Great Northern at St. Paul as mechanical engineer.

J. M. R. Fairbairn, assistant chief engineer of the Canadian Pacific, eastern lines, with headquarters at Montreal, Que., has been appointed chief engineer of the Canadian Pacific System. **J. G. Sullivan,** chief engineer, western lines, with headquarters at Winnipeg, Man., has retired from the service of the Canadian Pacific to enter private practice. Mr. Fairbairn was born at Peterboro, Ont., 45 years ago, and graduated from Toronto University in 1893. Following a short private practice in British Columbia he joined the Canadian Pacific as a draughtsman at Winnipeg, Man., which position he held for two years. He subsequently served as resident engineer at Place Viger, Montreal; assistant engineer, Toronto; assistant engineer of maintenance of way, Montreal; division engineer, Toronto, and engineer maintenance of way, Montreal. In February, 1911, he was appointed assistant chief engineer, and remained in that position until his recent appointment as chief engineer, of the same road, as above noted.

J. M. R. Fairbairn

W. C. Cushing, chief engineer maintenance of way, of the Pennsylvania Lines West of Pittsburgh, Pa., with office at Pittsburgh, has been appointed chief engineer-maintenance, of the Pennsylvania Lines West, the Pittsburgh, Cincinnati, Chicago & St. Louis, the Cincinnati, Lebanon & Northern, and the Lorain, Ashland & Southern.

A. N. Ostberg, mechanical inspector of the Chicago, Burlington & Quincy, with headquarters at Chicago, has been appointed mechanical engineer for valuation, with the same headquarters, succeeding **W. H. Davis,** who has gone into the department of inspection and tests of the Railroad Administration at Washington, as office engineer.

W. H. Wells, chief engineer of construction of the Southern Railway, has been appointed consulting engineer construction, of the Carolina, Clinchfield & Ohio, the Carolina, Clinchfield & Ohio of South Carolina, the Georgia Southern & Florida, and the Alabama & Vicksburg; **E. M. Durham, Jr.,** assistant chief engineer construction of the same road, has been appointed chief engineer construction, both with headquarters at Washington, D. C.

F. H. Clark, general superintendent of motive power of the Baltimore & Ohio, has been appointed general superintendent, maintenance of equipment, of the Baltimore & Ohio (eastern lines and New York terminals), the Western Maryland, the Cumberland Valley, the Cumberland & Pennsylvania, and the Coal & Coke, with office at Baltimore; and **H. A. Lane,** chief engineer of the Baltimore & Ohio, has

been appointed chief engineer of the same roads, with office at Baltimore.

L. L. Beall, chief engineer of the Atlanta, Birmingham & Atlantic, at Atlanta, Ga., continues under the United States Railroad Administration in the same position on that road, and is also chief engineer of the Georgia Railroad, the Atlanta & West Point, the Western Railway of Alabama, the Charleston & Western Carolina and the St. Louis-San Francisco lines east of the Mississippi river; **J. F. Sheahan,** superintendent of motive power of the Atlanta, Birmingham & Atlantic, has been appointed to the same position on all the above roads, both with offices at Atlanta.

Robert Culin White, division superintendent on the Missouri Pacific, with headquarters at Wynne, Ark., has been promoted to assistant chief engineer, with headquarters at St. Louis, Mo., succeeding **H. R. Carpenter,** promoted, effective July 1. Mr. White was born at Bertrand, Mo., on February 8, 1881. He attended the University of Missouri, and later entered West Point, leaving the latter institution in June, 1905, to become an assistant on an engineering corps of the Missouri Pacific, with headquarters at St. Louis, Mo. The following two years he was assistant engineer and roadmaster on the eastern, central Kansas and White River divisions. From September, 1908, to April, 1914, he was consecutively assistant engineer, division engineer and general roadmaster on the Memphis, central and Arkansas divisions of the southern district. In April, 1914, he was appointed engineer maintenance of way of the southern district, with headquarters at Little Rock, Ark., and on January, 1917, he was made division superintendent, which position he has held continuously with the exception of a period of four months between June and November in 1917, during which time he was chief engineer under the constructing quartermaster in charge of the construction of the National Army cantonment at Camp Pike, Ark.

R. C. White

Purchasing

W. S. Galloway, assistant purchasing agent of the Baltimore & Ohio, at Baltimore, Md., has been appointed purchasing agent of the Baltimore & Ohio (eastern lines and New York terminals), the Western Maryland, the Cumberland Valley, the Cumberland & Pennsylvania, and the Coal & Coke, with office at Baltimore.

R. B. Pegram, executive general agent of the Southern Railway, at Memphis, Tenn., has been appointed general purchasing agent of that road, and the Carolina Clinchfield & Ohio, the Carolina Clinchfield & Ohio of South Carolina, the Georgia, Southern & Florida, and the Alabama & Vicksburg, with headquarters at Washington, D. C.

O. H. Wood, assistant purchasing agent of the Great Northern at Seattle, Wash., has been appointed special representative of the Central Advisory Purchasing Committee of the Railroad Administration, with headquarters in the same city. He will co-operate with that committee and assist in procuring railroad requirements of fir lumber.

Railway Officers in Government Service

The President's appointment of **A. G. Pack** as chief inspector of locomotives was confirmed by the Senate on July 6.

T. C. Powell, in addition to his duties as manager of inland traffic of the War Industries Board, has been appointed also special representative of the Railroad Administration with that board.

E. T. Willcox, general freight agent of the Seaboard Air Line, has been appointed chairman of the committee of freight traffic control with office in Southern Railway Building, Washington, D. C., vice **George R. Loyall,** appointed operating assistant to the regional director, Southern Region.

Martin H. Clapp, superintendent of telegraph of the Northern Pacific, has been appointed manager, telegraph section, division of operation of the Railroad Administration, with office in the Southern Railway building, Washington. Mr. Clapp will have supervision over telegraph and telephone lines belonging to the railroads under federal control.

Obituary

Francis N. Dowler, general eastern agent of the Colorado Midland, with office at New York, died on July 2, at his home in Brooklyn, N. Y.

Lawrence Dwen, general agent of the Missouri & North Arkansas at Joplin, Mo., was accidentally killed on June 21 while riding on a railroad velocipede, which suddenly left the track and plunged into a ditch.

J. L. Greatsinger, formerly for several years previous to 1901 president and general manager of the Duluth & Iron Range, and subsequently president of the Brooklyn Rapid Transit Company, died on July 2 at his home in Elmira, N. Y., at the age of 68.

Henry F. Shoemaker, formerly chairman of the executive committee, board of directors, of the Cincinnati, Hamilton & Dayton, from 1890 to 1904, and also from 1899 to 1904 chairman of the board of the Cincinnati, New Orleans & Texas Pacific, died on July 2, at his summer home in Riverside, Conn., at the age of 73.

E. S. Meloy, assistant engineer in charge of bridge erection and bridge inspection on the staff of the chief engineer of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, died in that city on July 8, after an extended illness. Mr. Meloy entered the employ of the St. Paul as a draftsman in the bridge and building department in 1886 and was promoted to assistant engineer in 1890.

W. W. Walker, federal manager of the Duluth, South Shore & Atlantic, and chairman of the committee appointed to represent the railroads in handling ore, coal and grain traffic, at Lake Superior and upper Lake Michigan ports, died July 2, following an operation on June 23. Mr. Walker was born at St. Catharines, Ont., on June 3, 1868, and began railroad work as an office boy with the Grand Trunk, in 1883. The following year he went with the Queen & Crescent Route, and remained with that line for three years as a clerk in the traffic department. In 1887, he entered the employ of the Chicago & North Western in the claim department, and from October, 1888, to February, 1890, was rate clerk and chief clerk in the general freight department of the Great Northern, following which he was appointed traveling freight agent of the Duluth, South Shore & Atlantic. Seven years later he was promoted to assistant general freight agent, and from July, 1901, until December 1, 1911, was general freight agent, at Duluth, Minn. On the latter date he was elected vice-president and general manager of the Duluth, South Shore & Atlantic and the Mineral Range, with headquarters at Duluth, which position he held until his appointment as federal manager, as was announced in these columns on June 21.

W. W. Walker

THREE SECTIONS—SECTION 2

Railway Age

INVESTMENTS SECTION

SECOND HALF OF 1918—NO. 2 SIXTY-THIRD YEAR

NEW YORK: WOOLWORTH BLDG. CHICAGO: Transportation Bldg. NEW YORK—JULY 12, 1918—CHICAGO CLEVELAND: Citizens Bldg. WASHINGTON: Home Life Bldg.

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FOREWORD

Frank A. Vanderlip,

President, National City Bank, New York, in a foreword to the first quarterly investment section of the Railway Age said:

"THE Railway Age, by reason of the able and thorough manner in which for many years it has covered the field of railway affairs, has made itself well-nigh indispensable to persons desiring to keep themselves well-informed upon the transportation industry. Its competent staff has dealt instructively with every phase of the railway business, including technical matters of special interest to operating officials, financial intelligence, economic problems and all of the numerous and intricate questions which have arisen out of the relations between the railways and the public.

"In view of the responsible character of the publication and the ability with which its editorial policies have been directed, the announcement that it will broaden its field by adding to the regular departments which it has heretofore maintained a quarterly section devoted to general financial investment conditions, is a matter of public interest. Inasmuch as the railroads up to this time have supplied much the largest single class of securities appearing in the investment market, it is rather a natural departure for the Railway Age to extend its inquiries and comments to the fundamental conditions affecting investments.

"The announcement says that the section 'will be devoted to the science of the utilization of wealth as capital.' There has never been a time when it was more important that the public should be impressed with the community value of capital than now. The waste of wealth going on at the present time is appalling. Enormous debts are being piled up, for the payment of which the good faith of the nations is sacredly pledged. Economic relations are being radically changed by the pressure of conditions which are themselves temporary, and there is evident danger of reaction when these conditions disappear. To meet this situation without disaster industry must be sustained after the war by large, new investments in constructive work. There never is full employment for the industries except when such investments are being made. The almost complete absorption of surplus incomes by public loans during the period of the war will throw the country behind its normal development, and in order to recover this lost ground, as well as to provide immediate employment for the country's wage-earners, it will be important promptly to organize our resources to finance these new operations. That the wastes of war shall be made good, that the debts of the war shall be paid, that every man and woman wanting employment shall be able to find it, and that the efficiency and productiveness of industry shall be so increased that wages may be sustained and the costs of living at the same time reduced—these are the aims to which we must unitedly set ourselves when the war is over.

"There is need for all the agencies we can have to spread correct knowledge of the part which capital plays in community progress and of the patriotic service which it can render in times of peace as well as in times of war. I am sure that the Railway Age will do good work in its new field."

Contributors to the Financial Section

John G. Lonsdale

JOHN G. LONSDALE was born in Memphis, Tenn. While still very young, he lost both parents in the yellow fever epidemic which swept that city in the late seventies. In his early youth he moved to Hot Springs, Arkansas, where he gained his first business training. At the age of 21, he was appointed receiver of the Little Rock, Hot Springs & Western Railroad. Fifteen years ago, Mr. Lonsdale moved to New York City, where he achieved pronounced business success as a member of the banking and brokerage firm of Logan & Bryan. In 1915, the offer came to him to assume the presidency of the National Bank of Commerce in Saint Louis. It was an opportunity for constructive work is his native section, and he grasped it. Under his administration the deposits of the bank have increased twenty-five million dollars in three years—and they are still on the upward swing. The bank is the largest in the Eighth Federal Reserve District.

EDWARD B. BRUCE, President of the Pacific Development Corporation of New York, is a graduate of Columbia University (1901) and of Columbia Law School (1904). He was a member of the Varsity football team. After leaving law school he went to work for Cravath, Henderson & DeGersdorff. He later went out to Manila, and in 1916 helped to form the Pacific Development Corporation and was made its president. The Pacific Development Corporation is interested in industrial and commercial development in the East. It controls the Pacific Commercial Company which has considerable interest in the Philippines, and Andersen, Meyer & Company, which is the representative in China of the General Electric Company, Pressed Steel Car Company, Baldwin Locomotive Company, and other large American manufacturers. The Pacific Development Corporation also controls Hartmann Brothers, Inc., which does a very considerable import business. In April, 1917, the Development Corporation acquired the Philippine Manufacturing Company, American Machine & Manufacturing Company, and the International Vegetable Oil Company. The business of these latter companies, which has to do with different phases of the manufacture and import into the United States of copra and of vegetable oil, has taken on a very considerable importance, especially since the restrictions which have had to be placed on the use of oils made from animal fats.

Contributors to the Financial Section

F. J. Lisman

FREDERICK J. LISMAN is a New York banker who has specialized in dealing in the securities of the smaller railroads and of the so-called short line railroads. Notwithstanding the fact that Mr. Lisman is a hard-headed and a very successful practical banker, he has found time and interest to study both the history and the economics of the development of American railroads, and there are probably few men in America who know intimately what might be called the inside history of the development of so great a number of railroad projects. In testifying before the Hadley Securities Commission, which made an investigation about the issuance of railroad securities, he described fully, frankly and vividly how numerous short lines all over the United States have been financed and built; how the farmers have given the labor; how the ties have been supplied at very small cost; how the money for such necessary supplies as rails, cars and locomotives has been raised by the issue of first mortgage bonds at the rate of so low as $10,000 per mile, which were sold possibly in Holland, in Germany or in France; and how the benefit which accrued to the farmer came from the opening up of transportation facilities, and how the profit which accrued to the banker, if in the end the project was successful, came through holding the stock over possibly a period of years and selling it eventually to some one of the larger railroad systems. About 15 years ago, before physical valuation of railroads had been considered seriously, Congress desired to have a valuation made of all the outstanding securities of railroads. Mr. Lisman undertook this enormous task and carried it out without any compensation from the government. Congress has never made any use of this work.

Frank Wright Noxon

FRANK WRIGHT NOXON is a newspaper man of broad experience and the author of "Are We Capable of Self Government?" published in 1916, and of "The Rate Decision and Railway Credit," published in 1911. Mr. Noxon was a reporter on the Syracuse Herald for a year; was dramatic critic of the Boston Record from 1893 to 1900; and he has been managing editor of the Providence News, of the Boston Republic, and of the Boston Traveler. He was secretary to Henry M. Whitney in 1905, and was course lecturer in the Boston Public High School of Commerce in 1907 and 1908. He has been secretary of the Railway Business Association since 1908. This association was formed by the manufacturers of railway supplies with the object of putting before the public certain phases of the railroad question; and it was at one of the annual dinners of this association that James J. Hill, in 1912, made his prophetic speech outlining the country's needs of greater railway facilities and terminals.

Some Cheering Thoughts on the War Debt

The Future of Business in This Country, Despite the Great Destruction of Property Which Is Going on, Is Bright

By John G. Lonsdale

President of The National Bank of Commerce in St. Louis

A YOUNG man of our city, after sixty days at the aviation field, where he had done nothing more perilous than study aeroplanes on the ground, recently came home on leave. His uniform was new, the girls were nice to him, and he enjoyed his visit. But, what is more, he cheered up his friends, for to each of them he confidentially imparted the information that Sherman was wholly wrong: That war wasn't Hell at all; in fact, that it was very enjoyable.

However, in presenting this article, the writer must state that he is not quite so cheery as this young man. War is a thing of burdens and horrors and it is futile to deny it. Germany forced us into the conflict to defend the principles and ideals for which this nation stands, and we accept its economic consequences in the same unflinching spirit of patriotism as that which sends our boys to the trenches. Whatever may be the money costs, we will pay them. The true American feels that, unless we win, life will not be worth while and the unpatriotic resident, if such there be, knows that, if Germany wins, his property rights will not be worth while. So they both buy Liberty Bonds, and the figures of our National debt mount to higher levels. But, even so, the cost of this war, as expressed in dollars, is very deceptive. There are many reasons.

In the first place, though the figures of our indebtedness are huge, the ratio to our national wealth is very small, and will probably never reach the ratio developed by Civil War expenditures to the nation's wealth as it then existed. True, as some may point out, we have never paid all of this Civil War bill, but it was not because we couldn't. Uncle Sam has treated it much as the millionaire individual who renews from time to time a ten-thousand-dollar note at the bank. If so requested, he could pay it at any time, but the bank is glad to have his paper, and so it rocks along without serious thought from either party. If the note were $100,000 it would probably have been paid at its first maturity. So, when Uncle Sam comes out of this war with his heavy obligations, special arrangements will be made to meet them. Liberty Bonds will be paid—and no one thinks otherwise.

Our National wealth and our annual National income have been estimated at two hundred fifty billions and forty billions respectively, while our war expenditures will be, it is thought, about fifteen billions per year when our industries are fully converted to a war basis. But, as a matter of fact, if the estimate of our income gave due consideration to war prices, the total would probably be sixty billions instead of forty billions. Some idea of the enormously increased production, which includes, of course, a great deal of war materials, may be gained from the fact that Income and Excess Profits taxes which it was originally estimated would yield two and one-half billion dollars for 1917 will probably yield over four billions. These figures are significant, too, as supporting what has previously been said about the ease with which our pre-war National debt of a billion dollars could have been discharged.

In the foregoing, we have spoken of the annual cost of war in terms of dollars. War's burden, however, would be more accurately referred to as a loss, and be treated in terms of tangible property—cloth, and steel, and foodstuffs, and all other things that minister to the wants and comfort of mankind. In a broad sense, we may say that this loss arises on the one hand from increased consumption and destruction of commodities, and, on the other, from decreased production. We know that we are losing ships and cargoes, and that guns and munitions of war of every kind are being manufactured to last but a short time on the battle front. We know, too, that millions of men who were producers are being converted into soldiers. But then, too, we know that civilians are working harder than ever; that a great many women formerly unemployed have joined the ranks of wage earners and producers; we know that a not inconsiderable part of the war's cost is represented by wages paid to soldiers, much of which sum will be saved. We know that, as our ship-building program now stands, the end of the war will find us with more ships than ever before. We know how highly improbable it is that this country will ever be invaded by a hostile force, and our railroads, our buildings, our farms, factories and mines will therefore remain unaffected by the direct ravages of war. It must follow, then, leaving out the question of debt in terms of dollars, and considering merely property loss, that this country is not driving toward economic ruin, even if it be assumed that the war will last ten years.

The cost of war being thus properly considered as a loss of property or its equivalent, it is readily seen that this loss must be borne as we go along. No future generation can supply the materials that we need now, and that are being so freely sacrificed. What, then, is the meaning and purpose of National debt? Merely this, and nothing more: That a certain portion of our citizens own the things that are needed for the waging of warfare, while others own property of a different kind. It would be manifestly unfair to confiscate A's powder factory and his materials for government use, while B, who happens to own a candy factory, is left in full possession and ownership. But the government must have the output of the powder factory. Hence, it first acquires purchasing power by selling obligations of the government, which are in fact obligations of all the people; and it then uses this purchasing power to pay A for his powder. Thus an injustice is avoided: The cost of the war is equitably distributed. Yet, as regards the property, itself (powder in this instance), the diminution of the country's wealth is just as great as if confiscation had been the method adopted. From which it is evident that the people of the United States as a whole are neither more nor less wealthy because government bonds, representing the war's cost, have been issued to them.

There are those who think debt is wrong in principle. They believe in the old proverb, "God is not sinless; He created borrowers." But, as we have explained National debt hereinbefore, we see that it is merely a method of preventing a great injustice to property owners of a certain class. At the end of this war, the people of the United States, represented by their government, will owe the people of the United States as bondholders a certain sum of money. This money must be raised by taxation, assessed against property and income. But, it may be safely assumed that the ownership of Liberty Bonds will be distributed according to property and income also; and, insofar as this holds true, each person's payments of taxes will come back to him in the form of bond interest and re-payment of bond principal. In this respect, the financing of this war in all countries differs greatly from preceding wars.

Heretofore the bond issues have been largely purchased by the very wealthy, so that, after the war, the people at large would be paying taxes for the benefit of the few. While on this question of taxation, let us not forget, either, that one of our avowed purposes in this war is to form a league of nations and curtail or abolish national armaments. Thus will one of the great burdens of the people of all nations be forever removed.

A question in which everyone is vitally interested is whether industry will be thriving, and trade active, after the war. This cannot be definitely answered, because no one knows when the war will end, or what the economic condition of the present belligerent nations will be at the finish. But, from the trend of current events and the teachings of history, we can arrive at certain general conclusions.

First, we know that our spirit, when an American peace has been earned, will be one of pride and thankfulness. We will face whatever is to be faced in the way of economic trials with the knowledge and the confidence gained from solving war problems of equal magnitude. The menace of German autocracy being removed, we will be rich in our sense of national security and rich in memories of glorious achievements.

There must, of course, be a period of economic re-adjustment to peace conditions, just as the process of adjustment to war conditions is now going on. But this period will be short, and will perhaps be partially prepared for before the war ends. For a decade after peace comes, Europe will go through a process of rehabilitation, and the materials for this work will be largely supplied by our people, because we may depend upon the working out of some plan, probably through the government, whereby the necessary credits will be granted to those nations whose peoples desire to purchase from us. As a nation we have already become accustomed to making foreign loans, and as individuals to financing foreign business. There will be real co-operation between government and business, both in financing and in entering foreign fields. Our banks will come out of the war in liquid condition, because liquidity of assets is the present watchword of bankers throughout the country. Returning soldiers will soon find work, because there will be much to do. Stocks of goods all over the world will have become depleted, and will need replenishment. A great amount of building and construction work in this country, both private and public, is now being deferred till the coming of peace. Railroads will need extensions and new equipment, and the railroad industry will be liberally financed. We shall be very busy with all of this, and our economic recovery from the effects of war will be rapid.

If there be those who doubt the ability of the human race to rise from the ashes and wreckage of this war, let him but read the history of France after the Franco-Prussian war; let him but consider the rapid economic rise of the United States after the Civil War. With knowledge of such achievements, one has but little sympathy with such a wail as the following, which emanates from a current writer: "How commerce will be financed, how manufactures will be revived, how banking will be carried on, how public bankruptcies on an unheard-of scale are to be avoided—these are questions which defy experience and baffle even the wisest heads." When he ignores what history might tell him on this subject, he is as wisely consistent as the man who turns off the light and wonders why it is dark. Let him read this from the "Contemporary Review" of April, 1877, with reference to France, after the Franco-Prussian War: "And so we come round to France, the people whose well-being has been so visited with the most violent assaults . . . War has desolated her broad fields and overthrown her industries over great areas of her territory. Her taxation has been suddenly raised by the gigantic sum of thirty millions of English pounds a year . . . Her share of the commercial trial has been the severest and largest of all; yet at this hour she exhibits, not the melancholy languor of business men in other countries, but the active movements of quickened recovery."

As France recovered, so will the world.

But, first, the war must be won.

Photo from Press Illustrating Service

A German Bath Train

The Future of the Railroads of the United States

A Suggestion for a Regional System of Railroads Under Private Ownership With Government Representation

By F. J. Lisman
Of F. J. Lisman & Company.

PROPHECY at all times is uncertain but never before has it been as difficult to read the future as at present. An endeavor to judge the future by the past would probably be futile, because with the rapidly changing point of view, experience of the past is thrown to the winds and the public appears to be ready to take up rashly new doctrines. A writer in a recent issue of the Political Science *Quarterly* says: "We have become aware that the orthodox doctrines of economics, politics and law rest upon a tacit assumption that man's behavior is dominated by rational calculation. We have learned further that this is an assumption contrary to fact. But we find it hard to avoid the old mistakes, not to speak of using the new knowledge."

Our railroad system developed during the period of individualism, when private initiative was considered the ideal method of developing all resources and the chance for private profit and for the distinction of having accomplished the development of small or large sections of the country, or of some particular enterprise, was the incentive. At that time the accepted public philosophy was that the fittest should survive and the "devil take the hindmost." During the last twenty years a new philosophy has taken hold, which is based on the greatest good for the greatest number and under which the activity of the individual which we formerly greatly encouraged, is circumscribed closer and closer. Formerly individualism ran riot, now collectivism may do likewise. As individualism was preponderant in the development of the railroads, therefore, the reaction in that particular field is strongest. The managers of railroads themselves discovered in the 80's that individualism had become too pronounced and was through excessive competition threatening their own fortunes; therefore, there was an era of consolidation during which most of the present railroad systems were formed.

Some of the legislators feared that consolidation might go too far and passed the Sherman act, which in effect prohibits consolidation of any kind. This law was almost a dead letter for ten years until public opinion had matured sufficiently to demand its enforcement. Since then, with the change of the public's point of view towards what for lack of a better term is known as "social justice," railroads and other utility corporations have been so curbed they are now in a position of a man bound hand and foot who is asked to do a good day's work.

It may be said that the managements of some steam railroads were dishonest and of others incompetent, but it is doubtful whether the percentage of dishonesty and incompetence was as great in the railroad field as in other enterprises. The temptations were great but railroads were always in the lime light, which acts as a restraint. The speculative tendency of some railroad managements has led to heavy losses on part of the security holders but to none on part of the public served by the railroad companies. That dishonesty and incompetence has not been the dominant factor in the decline of railroad securities is proven by the fact that in the decade 1907-1917, there has been no conspicuous example of improvement in the financial condition of a single large railroad company. On the other hand, some of the companies which at the beginning of this ten year period were prosperous, have since gone into bankruptcy and the credit of most others has declined, irrespective of the increase in the rate of interest due to the great demand for capital for war, industrial and other purposes.

Owing to the difficulty of getting capital at fair prices, railroads have not as formerly, been able to increase their facilities so as to meet any normal increase in demand for transportation. About July 1, 1914, there was every indication that as a sequence of the unwise and repressive legislation against corporations the development of the United States would be seriously checked and that we were headed for a long and serious business depression. When there is no incentive for capital, then, of course there will be no development, and when there is no development, there is unemployment. *The sudden demand for all sorts of war supplies on part of the European belligerents entirely changed the situation before the lesson was well-learned and most people in the excitement of the times, have forgotten about this.* The railroads have had all the business they could handle since the middle of 1915 and while they made some money at first, the increased business of late was a burden rather than a benefit owing to the lack of facilities, largely brought about by lack of credit and the rapid increase in expenses.

Since we entered into the world's war, the constitution has been practically suspended and the executive, as is necessary in times like these, has been vested with far-reaching powers. It was found that the congestion of the railroads needed drastic treatment and, therefore, the Government took possession of the railroad system, through the Director General of Railroads.

An effort is now being made to operate the railroads to the best possible advantage, that is by suspending competition and onerous restrictions of the federal and state governments in every respect, and also by making the public pay the full cost price. The public has suddenly visualized that it is really interested only in good service at the lowest possible prices and that competition is not necessarily essential to achieve that purpose. Pretty soon the public will realize that for instance five competitive trains leaving Chicago for the Twin Cities or Omaha at about the same hour is just as expensive, and something they have to pay for one way or the other, as it is to have two sets of gas pipes in the same streets. This lesson had previously not been brought home to the public because it was the investor who usually paid for this duplication of service rather than the consumer.

During the last ten years investors have learned by bitter experience that money invested in developing railroad enterprises is not likely to bring any return.

The railroads which were in a development stage since the commencement of the war in 1914, have as a whole had no opportunity to demonstrate their real earning capacity. The smaller roads were greatly hampered by the car shortage and the larger roads did not receive any, or very little benefit, from certain rehabilitations made during the period in question. The larger properties are now leased to the Government at the standard return, which means the average of the net earnings for the three years ended June 30, 1917. The owners of the small roads are extremely uncertain as to their position and seeing there is very little or no chance for an income from their investment they would like in many cases to scrap their properties at the prevailing high price for second hand rail and equipment, for the purpose of saving some of their principal. The Director General in many cases has refused or is threatening to refuse to take over these lines. This refusal under present conditions of the labor market is equivalent to a death sentence, because these strug-

gling properties cannot compete with lines controlled by the government. In case of the refusal to take these properties over the owners would in most cases be prevented by the local authorities from taking up their lines; therefore, the capital invested in short lines has become subject to financial slavery.

Government Responsibility

The method of railroad regulation by federal and state governments developed between 1906-1917 and was equivalent to absolute government control without responsibility. The government fixed the price of transportation for freight and passengers; it fixed the wages and regulated the method of keeping books. *In effect the government had commandeered the capital which had been invested in the railroads.* As this capital had become fixed it could not, of course, be withdrawn except in so far as the securities representing it could be disposed of in the market at ever declining prices, but additional capital for the construction or the development of railroads became unobtainable on fair terms. The condition under which capital was expected to be furnished was substantially that if the enterprise were successful, capital would be theoretically entitled to a fair rate of interest, but if the reverse, capital should take the whole of the risk; in other words, the politicians as representing the public said to capital "heads we win and get the facilities, and you get a rate of interest which you could have obtained without taking any risk; tails you lose your money and we get the facilities anyway." This was obviously an impossible proposition.

The writer was interested in a sixty mile railroad in one of the Southern States, which, during the three years ended 1910, did quite well. Since then, for a variety of reasons, crops along the road have been a failure and interest on the company's bonds has not been paid. Notwithstanding this, the local railroad commission tried to insist some time ago that additional equipment be furnished for the purpose of accommodating a manufacturer of crates, whose traffic would have passed over but five miles of this company's track. The obvious answer to the railroad commission was that no additional capital could be found because the prospect of getting no return on the money was not attractive to capital. This same answer applies all around. To put it concisely, *too much regulation* is confiscating a large amount of capital invested in the railroads and above all, it *has absolutely confiscated the incentive.*

Government Does Not Practice What It Preaches

Digressing for a moment let us note how little our legislators are inclined to follow the line of action they have laid down for others. The railroads of the United States earned nearly four billion dollars annually before the war. They had to keep their books according to a standard method, giving all items of income and expense to the minutest detail. During the same period the total amount of money collected in the United States by federal and state governments and their subdivisions through taxation was about 10 per cent greater than the total gross earnings of the railroads. Neither Congress nor any Legislature has troubled itself to correlate the figures as to the total amount of taxes collected, much less has any attempt been made to follow the expenditures of these moneys; in fact in most of the states it is not even known how much the sub-division of the states, such as counties and municipalities collect, or how they spend it. In some states the electric light, electric railway companies and gas companies must keep their books according to a certain standard, but similar public utilities operated by some of the municipalities *are exempted from this rule.*

What About the Future?

The paramount question now is, what is going to happen to railroad enterprises after the war. Previous conditions had become intolerable and a new and constructive policy will have to be adopted. It is barely possible the question of government ownership may become the issue between the two political parties at some congressional or presidential election but as the attitude of most voters on this subject is so very uncertain both parties will probably prefer not to make this the definite issue. The railroad problem will have to be solved, however, possibly by the Congress elected this Fall, or more likely by the Congress which is elected in 1920.

In final analysis there are only three ways of handling the railroad problem.

(1) *Government ownership and operation.* It is safe to say that all of those who have devoted their lives to the railroad problem are convinced that government ownership whenever and wherever tried, has been a serious failure. The American public has always been jealous of its liberties and it is very doubtful whether even with the present socialistic tendencies the public would be ready to put so much power into the hands of the government, which would mean practically putting this enormous power into the hands of any political party controlling the government for the time being.

(2) *To return the railroad properties to the corporations,* on the same basis as existed previous to the war.

The conditions prevailing previous to the war were equivalent to absolute government ownership without government responsibility, a return to which is not feasible because—

(a) The companies will not be able to raise the necessary capital to rehabilitate their properties which will be necessarily run down if the war lasts several years, because the government will only make such improvements as will help win the war.

(b) Enforced competition does not fit into the new system of philosophy. It is the big perspective or point of view of the time which dominates the action of each generation. What is right in one generation is frequently wrong in the next, and vice versa. The public having visualized that enforced competition is unnecessary and expensive, will insist on dispensing with it. The shipper in Chicago who had the choice of half a dozen package cars via as many different lines for a shipment of dry goods from Chicago to Atlanta has had his mentality adjusted to the fact that there is now only one daily package car between these points which should be able to give more dependable service than any one of the six formerly gave. He will not longer be interested in the question which route to ship over or which one of the glad-hand freight agents to favor with his business. This era belongs to the dead past.

(3) There would appear to be nothing left but *a compromise between public ownership and private operation.* Such a compromise may, of course, take various phases. It may come in the shape of government ownership of properties turned over to private companies for the purpose of operation. The most logical way to solve the problem would appear to be a continuance of private ownership and private operation on the best terms combined with reasonable government supervision.

Regional Railroads

It is beyond human ken for any man or even set of men to operate a railroad system of 250,000 miles, the approximate present mileage of the United States.

There has been a contest since the close of the Civil Wr between two different types of railroad management, departmental and divisional. Under the departmental system all details are run from headquarters by someone in charge of some department. For instance, every trifling question about engineering has to be submitted to headquarters. Under the divisional system the General Superintendent, who may have charge of 1,000 miles of railroad, or even the Division Superintendent with from 150 to 300 miles of railroad to look after, has fairly full authority over his division and is in

many cases authorized to spend as much as $5,000 at his discretion.

Under government ownership everything would be done on a departmental basis and it would be difficult to give anybody outside of Washington authority to do anything. This would not only tend to delays, but it would take all the initiative out of every official.

Railroading, after all, is very much as Hancock said about the tariff, "strictly a local question." Very few people realize how strictly local it really is. The man in charge of any railroad in order to run it successfully must know:

1. The local problems; the nature of his territory as to traffic and seasonal movements, etc.
2. Conditions of the soil along his line as affecting track conditions.
3. The grades affecting his motive power and train loads.
4. Physical condition and type of his motive power and other equipment.
5. The class of men under him clear down to section men.

It is for this reason that the size of corporations or of regions must be kept down to a size which at least one or two big men can visualize and understand.

To operate to the best advantage 25,000 miles of railroad is a very big proposition indeed. In order to get the best results the country must be divided into not less than eight and probably not more than fifteen regions. The first region to take in the New England states, the second composing the present trunk line territory east of Buffalo and Pittsburgh and north of the Mason-Dixon line; a third the territory west thereof and north of the Ohio River and running to Chicago and St. Louis on the west, etc. The government should encourage the consolidation of companies within each region and if necessary enforce consolidation. This, of course, would involve many legal problems. The government by the law of eminent domain unquestionably would have the right to condemn the properties of the companies and these rights might go as far as to compel the stockholders to take the securities of the regional railroad instead of cash or government securities. The best way to work out this problem, would be to appoint committee to place a value on the various properties, not solely on the basis of physical value, but on a basis on which business men would deal with each other. Such a committee would have to be composed of representatives of the federal government, of the corporations, of the shippers, also experts on the subject, that is college professors, who are much disliked in many quarters, but who nevertheless are becoming more prominent and active in nearly every walk of life. These committees would have to take into consideration the following factors:

(1.) Approximate physical value,
(2.) Necessity to the public,
(3.) Past earnings,
(4.) Prospects for the future,

Physical value must necessarily be a less important factor than heretofore. Because of the tremendous change in the cost of everything no one can say what would be a fair basis at this time.

Surely the cost prevailing on July 1, 1914, which was to be the basis of the valuation previously ordered by Congress would appear to be unfair to the owners, and the high price of war times would appear to be unfair to the government. Just what basis is fair is largely a matter of individual opinion. This is especially so because this subject has to be considered within twenty-one months after the close of the war, before prices for labor and commodities have settled down to a definite level. A fair value for each property, to be determined by unbiased arbitrators must in the end become acceptable to all parties in interest.

The law authorizing regional railways must provide that the rates in all cases be high enough to enable the companies to earn interest on their outstanding bonded debt, as well as a fair rate of interest, say 6% on the outstanding capital stock and on such stock as may be issued thereafter from time to time. Any surplus earned by the companies above say 6% on the common stock should be divided equally between the companies and the government. This would preserve the incentive of private management to obtain the best possible results and the government would not only be interested in having economical operation but would also be interested in having the rates not unduly low. The principle established in the recent organization of the American Railroad Express Company of giving the government an ever-increasing share of the surplus above 5 per cent is wrong, because it decreases the incentive of the management to make a profit.

The board of directors of each regional system should be composed of say nine members, of which four should be the nominees of the government. This board to appoint the officials and there should be nothing in the law to handicap the management by attempting to fix the salaries.

There are many companies, the lines of which traverse several regions. This, however, is no obstacle to the suggested plan, as long as the stockholders of these companies receive their proportion in each regional corporation. For instance the stockholders of the Atchison, Topeka & Santa Fe might receive 20 per cent in the capital stock in the Mississippi Valley region and 40 per cent each in the stock of the Southwestern and Pacific regional company and would fare no worse than if they received 100 per cent in stock of some one company. The stock of some one regional railway may be worth a trifle more than the stock of another, because the prospects for an extra dividend in some particular region may be somewhat better than that of another. It would probably be some time before these variations in prices would develop.

Financial and Legal Problems

The various committees which would fix the values of each property would of course have extremely complicated financial and legal problems to solve; in fact in attempting to deal with the companies on a cash basis the question of the relative position of bonds, preferred and common stocks would, of course, arise. Take the case of a company with a very simple capitalization like the Kansas City & Southern which has an issue of long time 3 per cent bonds outstanding. For the sake of round figures we will call this capitalization as follows:

$30,000,000 3 per cent bonds, due 1950.
20,000,000 5 per cent bonds, due 1950.
21,000,000 4 per cent preferred stock.
30,000,000 of common stock.

The valuation of this property has been tentatively agreed to under the old valuation and is strongly disputed by the company. Let us assume that for the purpose of the proposed consolidation into the Southwestern Regional Railway, the company assets should be valued at $75,000,000. This would be equivalent to par for the bond issues and the preferred stock and would leave a value of 13⅓ per cent for the common stock. The First Mortgage bonds would then have to run to maturity about 30 years hence and be paid off at par. As a matter of fact they are selling at 60 and have never sold higher than about 75. It would probably be much fairer for the committee to say that the bond issues selling at a discount should be taken up by some 4 per cent blanket mortgage bond of the regional railway on a 4 per cent basis. This would work out approximately 82 for the 3 per cent bonds of the Kansas City Southern and the Chicago & Alton or about 88 for the great number of long time 3½ per cent bonds issued by companies like the Chicago & Northwestern, New York Central, etc. If 4¼ per cent or 4½ per cent should be the prevailing rate of interest on government bonds at the time of the merger, then these underlying railroda bonds should be taken up on a 4¼ per cent or 4½ per cent basis. If a 4 per cent basis is applied in the case of the Kansas City Southern there would be

18 per cent discount, or $5,400,000, which would equitably belong to the $30,000,000 of common stock. This would be equivalent to an extra 18 per cent on the stock of this company. The legal question would arise whether the government under the right of eminent domain could enforce the retirement of a prior lien security at less than its par value.

Another question which would confront the committee would be the capitalization of preferred stock. The Atchison has outstanding 5 per cent preferred stock and the Kansas City Southern a 4 per cent preferred stock. Probably a fair way to deal with this problem would be to offer to each holder of $100 of a good 4 per cent preferred stock $80 of the 5 per cent preferred stock of the regional railway, thus maintaining the investors' present income but cutting down the principal or nominal value of the security. By such an exchange of the preferred stock of the Kansas City Southern, the company's capitalization would be reduced by another $4,200,000, which would be an additional 14 per cent which should accrue to the benefit of the common stock.

Difficulties to Be Overcome

To enforce the conclusions of these committees special legislation would be necessary, and possibly even a constitutional amendment, to make the findings legal and binding.

The obstacles are innumerable. Many things have been accomplished since we entered into the war which were considered impossible and the hurdles which we have jumped are much greater than those which seem to be ahead of us in the way of adjusting the railroad situation along these lines. These obstacles resolve themselves into:

1. Financial: These matters to be determined by the committees referred to.
2. Legal: A method may have to be considered largely by what was known after the civil war as force acts.
3. Regulation: Details of government regulation which should be determined by the same or other committees.
4. Operation: The relations of the regional systems to each other which are purely detail operating problems.

Such a solution of our railroad problems will I believe do justice to the shipper, the body political (our governmental system) and the vested interests.

Settlement of Labor Question

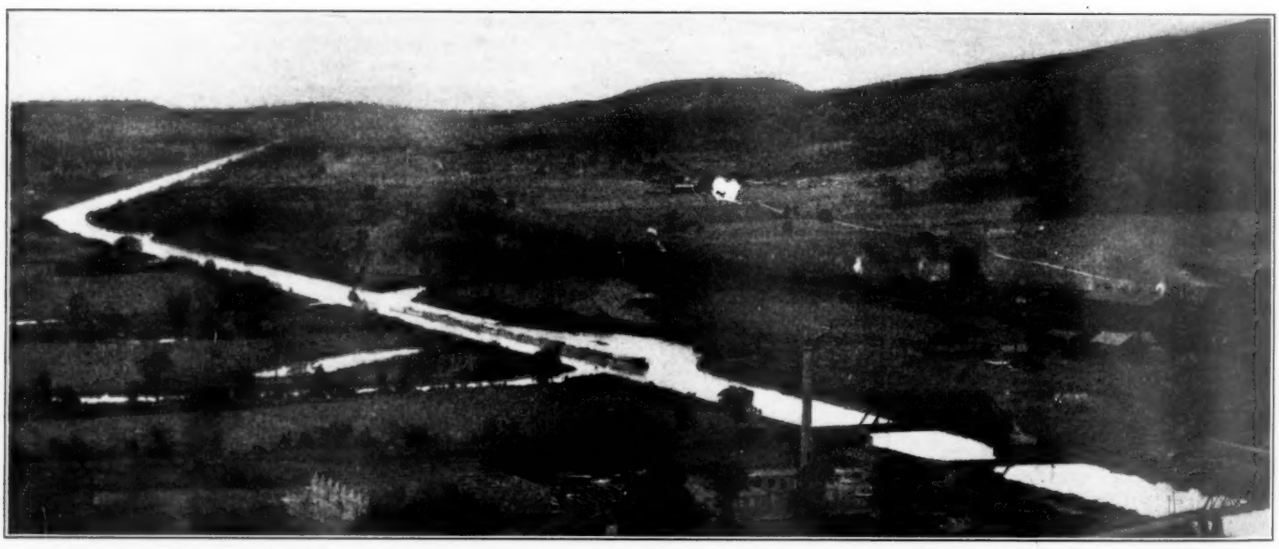
The question of having labor get a part of the profits above a fair rate of interest to capital must also be taken into consideration. All forward-looking men realize that some constructive work has to be done in that line and that previous conditions had become more or less unbearable. Exploitation of labor during hard times by capital and the profiteering of labor in good times must cease. By making the two interests partners the problem may be partially solved. It therefore might be worth considering whether the surplus above say 6 per cent on the capital should not be divided between the Government, the Stockholders and Labor. To say that each should have a third would be altogether too crude a method of determination because some of the Regional Railways would have a relatively larger capital stock than others. Roughly, it takes $5 of Capital to produce $1 of Railroad gross earnings and of this dollar approximately 60 cents goes to labor. Assuming that the Regional Railways will be capitalized on a basis of half bonds and half stock, then the extra dividend of 1 per cent on the capital stock would be equivalent to a bonus of approximately 4 1/6 per cent to labor on the wages earned during the year. Possibly a bonus of from 4 per cent—5 per cent to labor for every 1 per cent extra dividend paid on the stock might not be unfair.

* * *

The working out of the railroad problem on the above basis would mean that substntially all bond issues well-within a reasonable valuation of the properties and the interest on which is protected by, say, a 50 per cent margin of surplus earnings, would finally become underlying securities of the regional systems and would in the end sell on approximately the same interest basis. Lawyers seem to be of the opinion that under the right of eminent domain the government can call in any security at par: therefore, bonds paying 5 per cent or over might be redeemed before maturity. Mny companies have a variety of junior and income bond issues which would have to be exchanged for stocks or bonds of the regional railways on a basis of par or less, in accordance with the findings of the committees. There would be much uncertainty as to the outcome of non-dividend stocks.

Many pages could be written about each detail of the literally thousands of points and problems which would develop in the working out of the plan. This article is intended to be merely a rough sketch of what appears to be a possible and logical solution of the railroad problem.

On Thursday morning, after this paper had gone to press, Mr. Lisman received a letter from England saying that the English Railways were to be reorganized after the war on the very lines suggested in this article.



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Six Miles of the New York Barge Canal from Whitehall, N. Y.

American Trade Possibilities in the Far East

By Edward B. Bruce
President Pacific Development Corporation

STATISTICS OF IMPORTS and exports are deceptive guides in judging trade conditions and possibilities. This is particularly true of the statistics since the beginning of the great war. The growth of our foreign trade since 1914 has not been under competitive conditions and is no criterion of what our trade will be when these conditions return. The enormous increase of our foreign trade since the war has, however, done two things. It has stimulated a wide and growing interest in foreign trade and it has made the United States an exporter rather than an importer of capital. To a certain extent, the trade of the United States with the Orient presents the same questions as our foreign trade generally. It has, however, many problems and interests peculiarly its own.

Europe has for four years expended and Europe and America are now expending their man power and their treasure at a rate heretofore undreamed of. In the Far East the conditions are reversed—the man power is not only unimpaired by the wastage of the war, but as is always the case in the East, the natural rate of increase in the population is being augmented by a condition of unusual prosperity and the wealth of the Far East is being tremendously increased. China's total foreign debt of approximately one billion dollars looked large before the war; today in comparison with the indebtedness of the European countries and the United States, it is insignificant.

Under present conditions, prophecies are dangerous, but one thing seems certain and that is that the Far East has been and will be the great beneficiary of the war and will emerge from it in a condition which will demand from the rest of the world a far keener and more intelligent interest in its affairs and offer a far greater opportunity for mutually helpful and profitable intercourse than existed prior to the war.

Logically the United States should, and theoretically she can take an important place in this intercourse. The East as a whole, and in varying degrees in different countries, possesses the greatest and least utilized labor supply in the world. I venture to say, that the average adult male in China earns less than two dollars a month. I believe this to be an over-statement for I personally know of large sections in China where the average wage is much less. The East possesses great but largely undeveloped natural resources. It lacks transportation facilities, industrial development and capital. Even more than these it lacks executive and industrial training and experience to realize on and utilize its latent wealth. The United States needs the products of the Orient, can supply the capital and industrial direction and the manufactured goods which will be wanted in increasing quantities as the resources of the East are developed. Today China is buying all that she can afford to buy, and to increase materially her purchasing power, her productive capacity must be correspondingly increased.

To study what should be done one should consider the situation as it existed before the war. The total foreign trade of the United States with the Orient was divided roughly into two thirds imports from the East and one third exports to the East. Only with the Philippine Islands did our sales approximately equal our purchases. Not only was this the case, but the bulk of the business was handled in foreign ships, by foreign trading firms, financed by foreign banks and insured in foreign insurance companies.

The enormous increase in our foreign trade since the war has not been won against competition. It has whetted our appetite and we like the diet, but to keep it or any considerable part of it, is going to require careful study and sustained effort.

First and foremost, we are not going to take our true place in the world's foreign trade by staying at home. Organization in a foreign country where we wish to trade is the most important element in success. This is particularly true of the Orient. If we want the trade we have got to go there and get it. We are not going to accomplish results by staying at home and dreaming about it. European countries have for years used their best brains in the development of this business. Young men of the highest grade go to the Orient to make it their home, and trade with the Orient their life work. They learn the language, become experts in the products of the country. The requirements of the people are studied and their likes and dislikes catered to. The manufacturer follows the advice of his representative abroad and produces the goods that the people want and puts it up in a package that meets the native taste. You hear no talk from the English that such and such an article is good enough for the English and therefore it is good enough for the Chinaman. Up to date the reverse has been the case with the United States. Some few Americans have gone to the Orient, but for the most part they have gone through a spirit of adventure to see the world. They demand higher wages than their European confreres and their interest is divided between the pleasure of sightseeing and a desire to get home. They leave their household goods and utensils in this country and camp out abroad—the whole atmosphere is transient. The feeling is that a certain knowledge of the world may be useful in securing them better positions at home, but that they must not stay away so long as to be out of the running here. Americans are not naturally linguists and seldom take the trouble to learn the language of the people of the country where they live.

This is not said in any spirit of criticism, but simply as a plain statement of fact. The reason for which is clear enough in that the young American has felt that he had a better opportunity at home than abroad. Indications of a change in this respect are already apparent—concerns engaged in foreign trade are finding it easier to secure the right kind of Americans for foreign service, and it seems reasonable to suppose that the war with the sending of millions of young Americans abroad, is likely to inculcate in many of them, an interest and wish for foreign service.

Next in importance to the question of men to carry on foreign trade is the question of capital. Generally speaking it is pretty clear that the amount of foreign trade any nation has with a given country depends very largely on the amount of capital which that nation has invested in the country. This is primarily true of the export trade in manufactured articles which is the most profitable kind of foreign trade for any nation and the trade which America should especially seek. It is also particularly true of the Orient. As an exporter, the Orient is a producer of raw material and, with the exception of Japan, the Orient will be a purchaser of manufactured articles. The Orient to materially increase its purchasing power must be developed and its labor utilized in productive industries—to do this she needs capital and that country which furnishes most of the capital is inevitably going to secure most of the trade.

Third in importance, is the question of transportation and the facilities and machinery for foreign trade, such as foreign banks and insurance companies. America is at present engaged in building a mighty merchant marine. This merchant marine cannot compete on the Pacific under the

existing laws when normal conditions return, but I believe it reasonable to suppose that these laws will be modified when the necessity arrives to use these ships for the arts of peace and it is found they cannot be used without a modification in the existing statutes.

There has been a large development of interest in foreign banking which has been especially stimulated by the organization of the Federal Reserve Bank and the facilities it extends to member banks for discounting acceptances. I believe, however, that the same situation which applies to trading applies to banking and that American banking interests cannot take their proper place in international banking without establishing themselves abroad and securing the services of high class experts. The same applies to insurance; so far as I know not a single American insurance company is doing business in the Orient.

The situation of the American business man abroad and especially in the Orient was clearly shown at the outbreak of the great war. Great Britain very properly and very intelligently created a black list of enemy concerns following the same procedure which we have adopted since our entry into the war. She also very properly took the attitude that while she could not control the activities of neutrals she could withdraw her facilities from those neutrals who did business with the firms on her black list. Most of the American concerns in the Orient were so heartily in sympathy with the cause of the Allies, that they thoroughly approved of the action taken by Great Britain and were perfectly willing to forego trading with the black listed firms, but the fact remains that whether they liked it or not, they had the alternative of giving up this trade or substantially going out of business because the machinery for foreign trade in the Orient was primarily in the hands of the British; the American merchant who could not ship his goods in British bottoms, who could not finance his goods through British banks and who could not insure his goods in British insurance companies, could not do business in the Orient.

So far the questions discussed relate generally to Oriental trade, but conditions vary so in the various countries in the Orient that special study must be made of each. China with its vast area, its immense population, its great but undeveloped natural resources is undoubtedly the country to which one's thoughts turn in contemplating Oriental trade. The more one studies China the more one becomes fascinated by the theoretical possibilities of the country and the more timid one becomes in expressing definite opinions as to conditions there and probable developments. The only people I have known who have no uncertainty as to the future of China and are quite clear as to the best way to develop the country, are the people who have made exceedingly short visits there. The more familiar one becomes with the people, its traditions, the more obscure and difficult the problem appears.

One thing however, seems certain—China must have for any real development a great expansion of her transportation facilities. A country with a population estimated as high as 400,000,000 and with less than 7,000 miles of railway—a country with a mile and a half of railway for every thousand square miles of area must be supplied with increased transportation facilities for any large industrial and commercial development. There are parts of China only a few hundred miles distant from each other which are farther apart commercially than Shanghai is from New York. The problem in China from the point of view of the producer of raw material is not that she does not produce the material, but that there is no way of getting it out. People cannot be large consumers of manufactured articles in a country where the porters' guild of a city opposes the introduction of draft animals because it takes away their occupation, where you can hire ten men to pull a boat on a canal cheaper than you can one horse—or where a basket maker cannot ply his trade at night because the occupation is not sufficiently lucrative for him to afford a light.

For the United States to do its share for the development of China and secure its portion of the trade of China, the United States must be prepared to invest capital in providing for China the necessary facilities for trade in the way of railways, roads, transportation facilities and port works and for industrial development.

The situation in Japan justifies and demands the most careful consideration by the United States. One cannot travel through Japan or meet the Japanese without becoming convinced that the wish for a closer understanding with the United States and a desire for closer co-operation with this country has grown tremendously in the last few years. Japan on account of her strategic position, her industry and her tremendous increase in wealth, especially since the war, will and is entitled to take a leading position in the development of the Orient. Japan is rapidly becoming an important industrial country and so far as manufactured goods are concerned, is likely to be more of a competitor than a market for the United States. The Oriental problem so far as Japan is concerned, is to my mind not so much a matter of trade with Japan, but co-operation with Japan in the development of the rest of the Orient. There will undoubtedly continue to be a profitable and valuable trade with Japan in the exportation and importation of various commodities which one or the other countries can produce more efficiently or more cheaply than the other, but in a larger way we must look upon Japan as a competitor—an equal to be co-operated with in the development of the Orient rather than a field for development in itself.

The Philippine Islands have, or should have a peculiar interest and fascination for the people of the United States. It is there that America's only real Oriental experiment has been tried out and the results are a source of pride to every American who knows conditions there, and a constant source of irritation to these Americans that so little interest is taken in that situation in the United States. America's work in the Philippine Islands has been a fine accomplishment, has brought wealth, happiness and contentment to the people of the Islands and is a source of potential value to the United States to an extent which few people realize. It will surprise many to learn that the United States sold more goods to the Philippines in the five years ending December 31, 1915, than to the whole of China during the same period. The United States government has provided the facilities for modern commerce in the Islands—thousands of miles of beautiful roads have been built all over the Islands, railways extended and ports developed in the principal seaports. While private enterprise has not taken the interest in the Philippines that it should, what has already been done has shown most gratifying results and the people are clamoring today for assistance. The foreign trade of the Philippine Islands has grown from $27,700,000 in 1899 to $161,400,000 in 1917 and America's trade with the Islands has grown from $4,700,000 in 1899 to $100,800,000 in 1917.

What I have said of China applies largely to Eastern Siberia. The rest of the Orient, Indo China, the Strait Settlements, Java and the other East Indies will always be an important source of supply for tropical raw material and an increasingly important market for manufactured goods—the share of which America will get being dependent on her energy in going after and supplying the trade.

The great war brought the United States into closer association with other countries than ever before, and the relations which are now being established are bound to have an important bearing on the future of our activities in the Orient. One cannot study the history of the last hundred

years in China without realizing that it has been primarily a struggle between conflicting forces—a period of unhappiness for China and a period of unsatisfactory results in proportion to the effort made for the rest of the world. With the Chinese it is a conflict between the old and the new—the old China isolated from the rest of the world, its only wish to be left alone, and the rest of the world impelled by economic necessity and the immense growth of transportation, forcing its way in. The new China is developing, realizing the inevitable necessity of taking a place in the comity of nations, and seeking a way for the development of the country without submerging its nationality. The principal weapon of the Chinese during the last hundred years has been international jealousy, and the amount of ability which the Chinese have displayed during this period in playing off one nation against the other, would, had it been diverted into productive channels, have made China a very different place than that it is today.

It is my hope and belief that a way will be found whereby the allies can co-operate harmoniously in China and with the Chinese in much of the greater development especially that of a public nature necessary to China. The great public improvements such as railways, port works, harbor improvements, irrigation and drainage should be undertaken by the United States in conjunction with our Allies.

On the other hand, this policy should not be followed so far as a representation of American industries is concerned—the American manufacturer should be represented in the Orient by Americans as with all possible international amity, there should not be withdrawn the proper rivalry and competition in trade, and the American manufacturer cannot expect to have the sale of his goods pushed with the maximum energy by a foreign house whose primary purpose is to sell the goods manufactured in his own country—let us therefore not only co-operate with the other nations in the big things in the Orient, but build up our own commercial business there and push it with all the Yankee enthusiasm, ingenuity and punch that we can.

So far as the sale of American railway material in the East is concerned, this I believe is going to primarily depend on how far American capitalists are going to share in the financing of railway development in the East. Under the system which has been inaugurated in China, the railways are owned by the government and the interest of the people who build the railways and their profit in the enterprise comes through the sale of the securities issued against the cost of the enterprise and the purchase of the necessary material, supplies and equipment. Generally speaking the railway is built under the direction of engineers of the country supplying the money and the goods are bought there. It is to be hoped that the time will come when China will realize that it is for her interest to take in partners in an enterprise and arrange conditions so that the profits are shared on an equitable basis between China and those providing the money. The present system is innately vicious in that the profits to the concern which builds the railway depends upon the amount of the cost of the railway and it is hardly fair to expect human nature under these circumstances to build a railway as economically as it would be built if the profits primarily resulted from the success of operation.

Since the war there has been an increase in the demand in China for American railway supplies and equipment because the other nations could not supply them, but generally speaking unless the United States takes its share in the financing of the railways, the American manufacturer is not going to secure an important share in the equipment and supplies which are to be used by the railways of these eastern countries.

One cannot realize who has not been in the Orient, the immense effort and labor that Germany has put into building up of her foreign trade organizations there—many of these organizations have for years been doing business with little or no profits simply to establish themselves in the country, expecting to reap the reward when competition is reduced. Immense sums have been expended in providing the necessary machinery for foreign trade in the way of warehouses, shipping facilities, lighters, launches, and all the paraphernalia for foreign trade. The policy which the United States has inaugurated of Americanizing these German houses and withdrawing from Germany all the fruit of their years of labor is a highly effective war measure. The opportunity exists today for the American merchants to establish themselves at the expense of Germany in a way that will save years of labor and much money and it ought to be taken advantage of to the fullest extent.

Photos from International Film Service

These British Soldiers Had to Commandeer a Locomotive to Set Them to Safety in Northern Russia

Is It Wise to Unify the Railways Nationally?

A Study of the Aims Which the Public Wishes to Obtain in Any Re-organization of the Railways of the United States

By Frank W. Noxon

Secretary of the Railway Business Association

RECONSTITUTION of the American railway system after the war is recognized in many quarters as a problem which must be studied forthwith. It is seen that this discussion cannot wait if the new system is to be installed soon enough following the declaration of peace so that railway projects may aid in stabilizing a nation's business suddenly bereft of war supply activities. The Chamber of Commerce of the United States has authorized the convocation of a conference representative of all interests "for consider the broad aspects of the transportation problem and the formulation of a basis for the control and operation of the transportation facilities of the United States after the conclusion of the present government control."

Events since America went into the war have led some who participated in previous discussions of regulatory policies to wipe the slate clean and begin all over again. An advantage of this mental process is that it tends to bring forward aims as distinguished from means. For example, when anyone says that he favors government ownership or government operation, it is profitable to reply: "But government ownership or government operation is not an aim. What are the aims which you think would be promoted by government ownership or government operation?" If the discussion can focus upon the purposes which it is desirable to promote through a railway system and if those taking part in the conversation will make an effort to put aside their pre-conceived adhesion to specific measures, clear thinking and doubtless a spirit of co-operation will be engendered.

John R. Hall, in the Investment Economist Section of The *Railway Age* for April 5, enumerates a considerable list of objects which he deems desirable. Before stating these objects Mr. Hall formulates a measure, and the objects which he proceeds to catalogue are set forth as advantages which would be put within reach by the measure which he proposes. Mr. Hall's measure is "The substitution of a unified national system for a competitive system." The objects which he believes such a unification would accomplish are the elimination of duplication of "executive, transportation, maintenance and traffic organizations, tracks, terminals, cars, motive power, stations, officers, machine and repair shops"; "adjustment of rates on a broad basis of practical business considerations instead of on a competitive theory"; supersession of state laws and regulations by federal; "the linking up of lines not now physically connected"; standardization of types of cars and locomotives and many other supplies, and the stopping of competitive purchasing; abandonment of differential routes except for overflow of traffic and that "many miles of road into new territories could be built on the saving made by eliminating competitive construction."

It will be seen at once how valuable is the examination of these specifications, not as arguments to support a measure, but as proposals from which to extract (1) whether they are desirable, and (2) if so, what measure would most effectively promote them and do the least harm in other directions.

I do not pretend, either personally or as Secretary of the Railway Business Association, to any hard and fast conclusions as the basis of a railroad plan. The purpose of these comments is to suggest a method for use in discussion.

Let us consider Mr. Hall's first object as I have summarized it—"the elimination of duplication." It is necessary to unify on a national scale in order to eliminate for all practical purposes duplication of facilities and organization? It is essential to inquire in what respect such elimination would fall short if instead of one national corporation we were to have a number of competing transportation units. Competition between railroads in the ordinary sense is competition for business carried between common points. One proposal which has been brought forward with some particularity is that the country should be divided up into a number of districts in each of which all the transportation facilities would be turned into an absolute monopoly. Query: what duplication by the railroad unit in one district of facilities maintained by the railroad unit in another district would be of sufficient moment to constitute a serious defect in such a regional system? On the other hand it is being asked whether such independent regional units do not possess important advantages over a single national unit.

In the first place it is predicted that local state apprehension will defeat the complete centralization of railroad control. When we were advocating in 1916 certain extensions of the federal scope opposition was by no means confined to the South, and when we came forward with the plan of regional sub-commissions, with which the people of a traffic area could deal without going to Washington, a great part of the opposition disappeared, not only in the North but throughout the South. Obviously a regional system which can be put through has advantages over a national system which cannot.

In the second place it is argued that even if Congress were to adopt a national system it would insist, and probably public opinion would compel it to insist, on having a majority of the board, if not all of them, government appointees. A proposal cited by Mr. Hall, but not included in my summary of his objects, is "that the principle of private ownership will be upheld." We must thoughtfully consider whether a board containing members, not to say a majority, appointed otherwise than by stockholders would actually be under stockholders' control. President Wilson in the formative stages of the federal reserve legislation challenged certain bankers "to point to one government board in this or any other civilized country upon which private interests have representation." The question was whether the regulatory body, the Federal Reserve Board, should itself contain members elected by the banks. When it came to forming the Regional Reserve Boards, which administer the rediscount function as trustees for stockholders and depositors, the act provided that six should be chosen by the banks and three appointed by the government. Underlying this system, however, is a multitude of individual banks, whose boards are 100 per cent elected by stockholders and whose control over their own discount standards is absolute. It is evident that one of the difficult problems which we have to consider in formulating a railroad plan is that while excluding the owners from representation on the board which exercises supreme power of regulation over every feature of financing, rates and operation, the railroad unit shall be financed, maintained, expanded and operated by an executive who is appointed by a board of which the owners have unquestioned control.

Passing now to Mr. Hall's object with respect to rates—"adjustments of rates on a broad basis of practical business considerations instead of on a competitive theory." Mr. Hall seems to assume that the only competition affecting transportation is a competition between railways. John F. Wallace and Edward J. Noonan in a paper on terminals call attention to the fact that transportation is the result not only of competition between railroads but of competition between regions. When Mr. Hall speaks of "a broad basis of prac-

tical business considerations" as distinctively practicable under a single national system as compared with a system of independent railroads units, he invites comment from those shippers who have maintained their economic position by negotiation as to rates and railway service—in other words, by business methods—rather than by submitting their case to a tribunal of justice. When I lived in New England it was common for us to say that if New England ever got her "rights" as to railroad rates she would disappear as an industrial factor. New England subsists on preferences. Numerous litigations as to port preferentials and other aspects of regional rate competition have been dealt with by the Interstate Commerce Commission, and I believe that body has on some occasions even gone so far as to indicate that in its judgment it was desirable that there should be a redistribution of the tonnage as among ports. But obviously the logical conclusion of such litigations is a national yard stick, possibly a mileage scale such as was attempted in Minnesota, from which, as with the long-and-short haul clause, some lines of business only escape destruction at certain junctures because the commission exercises its power under the law to grant preferences. Undoubtedly the re-assurance to which I have referred when regional sub-commissions were outlined was based upon the idea that while the last word would rest with the central authority, nevertheless the people of each district would have a government agency living among them, sympathetic with them, intimate with their traffic history and with their present problems, and not only engrossed in solving problems from the district point of view but acting as spokesmen and champions for the district in dealing with the railroads of other districts and in adjustments of inter-regional questions at Washington.

Mr. Hall's proposal of doing away with conflicts between federal and state authorities seems to be covered by what I have already stated.

Next Mr. Hall regards a national system as likely to facilitate "linking up of lines not now physically connected." Some very earnest thought has been given to this question by observers who regard the poverty of certain roads as due to their detachment and lack of access to important termini. One of our problems is to consider whether a national system is necessary in order to give the people of the ill-served areas the benefits of such linking up—benefits of having a railway strengthened and hence made more useful by the consequent increase of income. Apparently the only obstacle to such a process under a system of numerous independent units would be the difficulty of co-operation of one unit with another. Query: if this was not brought about voluntarily, might not federal regulation bring it about?

Mr. Hall doubtless surprised some of his readers by approving a situation in which "Standardization of types of cars and locomotives and many other supplies could be introduced and competitive purchasing stopped." Discussion since the government assumed control of the roads has ranged wide on the question of standardization. There is a vigorous school which agrees with President Johnson of the Baldwin Locomotive Works, who says, "The workman who is responsible for the best workmanship should be entitled to the selection of his own tools, and similarly, the railroad manager who is responsible for his record of efficiency and economy should be permitted the widest discretion in selecting locomotives which he regards as best fitted for the conditions of service upon his line." Differences in conditions of operation in the various regions of the country are adduced as a compelling reason why standardization over the whole country should be attempted if at all only in a limited way and as Mr. Johnson has remarked on the question of mechanical progress, extreme standardization "would paralyze every effort toward the invention and introduction of new inventions." Competitive purchasing, Mr. Hall seems to think, should be stopped. Except in periods—of recent years most rare—of feverish haste to obtain deliveries at any price, competition in purchases has not been between railroads but between manufacturers. It must be carefully considered whether it is in the public interest either from the point of view of price or from the point of view of mechanical progress to perpetuate war conditions as they now affect industry in general by a centralization of the testing of devices and the purchase of appliances and supplies. Attention has been called to the prospect that a single railway system, with its tendency toward standardization, might become laggard in progress as compared with numerous independent railroad units whose executives were competing with one another in the effort to show a low operating ratio by improvements for economy.

Mr. Hall suggests that "many miles of roads into new territory could be built on the savings made by eliminating competitive construction." Competitive construction as well as construction into new territories has practically ceased. If for no other motive than the reduction in cost of food, opening up of new agricultural regions is an inviting prospect; but what region will welcome with enthusiasm the use of the surplus earned by its railroad to rescue from poverty, under federal edict, railroads of other regions where for one reason or another railroad surplus is a minus quantity? Here we have again the question of competition between regions. The prosperity of one district is of course a factor in the prosperity of every other district. The people of every district have to bring their material in over the railroads of other districts and carry their products to market over the railroads of other districts. Nobody anywhere in the country can wisely be indifferent to railroad stagnation anywhere else. But may it not be expected that the people who have located in regions which turned out to be prosperous and whose own energy, ability and community spirit have developed a commerce upon which their own railways have thriven, will desire a large degree of local control over the future development of their railways and terminals and also full control over the question where the surplus earned by their railways shall be invested, if at all, in other railways? Some people anticipate that if there are to be numerous independent railroad units one of the consequences will be to put on their good behavior the people of districts which have hitherto had a slow transportation growth in order that the financial reports of their railways may disclose such management, such railway policies, such policies of the regional regulatory body as will induce the holders of capital to invest in the railroads of that region.

What has been said with regard to regional autonomy is thought by a great many to apply with equal force to the development of men. One of the highest incentives to zeal on the part of those subordinate to a chief executive is that their promotion may not necessarily wait until he dies or retires but may come by transfer to another corporation; and that when the transfer is accomplished it is not by order of some high command which can disregard the inclinations of the officer involved but that a competing organization offers higher compensation, dignity or other advantages as a commercial inducement.

These observations are made in a spirit of gratitude to Mr. Hall for bringing the subject forward for discussion and in the hope that the general disposition will respond to that which the late Senator Aldrich found when he set forth to discuss currency reform: "The commission," said he, "has not taken up or considered the question as to the proper system to be adopted by the United States and will not take up that question until the case is fully presented to the American people and we can secure their judgment and co-operation in the adoption of a plan." He had, he said, only one request to make of the people of the United States—that they keep their minds open until the case could be fully presented to them.

Railway Age

INVESTMENTS SECTION

WILLIAM E. HOOPER,
Financial Editor.

Centralization Versus Decentralization

IN THE APRIL Investment Economist Section of the *Railway Age* there was a very thoughtful article by John R. Hall, manager of the bond department of Hallgarten & Co., suggesting a centralized single railroad corporation to operate all of the railroads of the United States after the war and the termination of the present temporary arrangement made between the government and the companies which own the railroads. In this issue there are two articles further discussing this subject; one is an analytical and suggestive criticism of Mr. Hall's article by Frank W. Noxon, secretary of the Railway Business Association; and the other a concrete suggestion for a system of regional privately owned and privately operated railroads which government minority representation on each board of directors and government participation in profits. In both these articles a decentralized railroad system rather than a single national system is advocated. The arguments against a single national system are stated so clearly in Mr. Noxon's article that they need no amplification. Just as there are strong arguments for a unified railroad system so there are strong objections to such a system.

Mr. Lisman's suggestion, like Mr. Hall's, is predicated upon the assumption that the driving force of competition can be eliminated to a large extent, and that, as a matter of fact, the whole trend of the times in economic thought is toward co-operation rather than competition. With regional railroads, however, there would still be a form of competition which in the past has had an important effect on the building up of the freight rate structure of the United States, and which up to the time of the taking over of the roads by the Government was keen and active. This is the competition between regions. Under any system of regional railroads, such as Mr. Lisman proposes, there would still be the competition in the New York market between California oranges and Florida oranges; there would still be the competition in the Pacific coast markets between Boston made shoes and St. Louis made shoes; between Michigan made furniture and High Point, N. C., made furniture; and so on over a very large range of commodities. This being so, there would be the incentive for competition by means of special rates on these articles as between different regional railroads.

This brings up the question as to whether, if some scheme of regional railroads is to be worked out, it is desirable or not to foster competition as between different regions. Under private ownership, competition was unquestionably fostered to a wasteful degree through low rates on many classes of commodities. There appears to be a trend of thought in Congress as now constituted toward an elimination of inter-regional competition, a decentralization comparable to a return to an economic doctrine such as that expressed in political terms in the Democratic party's long up-holding of state's rights. A regional system of railroads, such as that suggested by Mr. Lisman, which would adopt a rate structure, discouraging rather than encouraging competition between regions, assigning, for instance, the New York market for oranges to Florida by the adoption of a mileage basis freight rate; the assignment of the California market for shoes to St. Louis through the adoption of a mileage basis freight rate on shoes, etc., would be a logical carrying out of this trend of thought. It would, moreover, be a carrying out of the policy which has been adopted as a war measure of discouraging unessential transportation of commodities, which policy is in such striking contrast to the universal policy of the railroads before the war in fostering transportation of commodities by every means possible.

In peace times it is not as simple a question as it would appear under present circumstances. In normal times, expansion of industry must still continue to be as it has been in the past—the guiding principal of the development of the United States. That being so, it is a pertinent question as to whether the discouragement rather than the encouragement of transportation will act as a retarding force and, therefore, be intolerable. Co-operation is not only theoretically sound but is entirely practical as long as the aim of all of us in all parts of the country is substantially the same in that all other matters are subordinated to the one common aim of making war; but when there is no longer this superimposed community of interest, will the theories of co-operation still continue to have sufficient binding powers to work out practically for the elimination of competition? We do not think so. The nation at war may be able to and often has been able to adopt the outlook of its opponent toward economic questions or toward ethical questions, as far as that is concerned, for a sufficiently long time to enable it to meet on an equal footing its opponent; but a return to race ideals is pretty sure to follow quite rapidly the cessation of war. German co-operative commercial and business methods may be adopted in meeting present transportation problems, but it is against the whole history of thought in the United States and we believe against the temper of the people.

What Do We Mean by Inflation?

THERE HAS BEEN a great deal of more or less theoretical discussion of inflation but one obstacle in the way of getting any further advanced in the discussion has been the almost universal practice by which each one who discusses inflation gives the word a meaning which, *a priori*, proves the point he wishes to make. Very often this discussion is really an analysis of the relations between what it costs us to live and what we can command for our services. The Century Dictionary defines inflation, as applied to trade, currency, or prices, as "increase beyond the proper or just amount of value"; but this leaves each individual to determine for himself the meaning of proper or just amount. After all, cannot the question of what is just and proper be left aside for future discussion and present day discussion of this subject be confined to an attempt to understand how the rise in prices of labor and materials affects different groups of individuals?

At first it would seem as if there were only individual cases and that any generalization would tend to be theoretical rather than of any practical value, but if the reader will place himself in certain positions as regards money and prices, he will see that each different set of conditions brings up certain definite questions which can be answered in terms general enough to apply to a fairly large number of individual cases.

If a man and his wife and two children were living on $20 a week in 1914 and the family income is now $40 a week they would have to live as poorly on $2,000 a year now as they would have had to live on $1,000 in 1914, if the so-called cost of living has actually gone up 100 per cent since 1914. Hardly anyone, however, would contend that this family is as badly off now as a family earning only $20 a week in 1914. Each man, of course, would have to run over in his own mind what his particular expenses would have been for himself, wife and two children on a $20 a week wage in 1914 and what he can buy for $40 a week now. One test, however, is fairly safe to apply. On $20 a week in 1914 would it have been possible to save even $2 a week? With $40 a week now would it not be quite possible to save $4 a week? The answer to this question gives us a clue to the reasons why, notwithstanding all our grumbling about

having to pay at least twice as much for this or for that as we did four years ago, we are much better off, in the common acceptance of the meaning of this phrase, with $40 a week now than we would have been with $20 a week in 1914. This reasoning applies to that group of individuals who live in cities and towns and whose wages or salaries averaged from $1,000 up in 1914. It is not meant to suggest that on an average this group is earning twice as much as in 1914, but the point that we want to make here is that for this group the cost of living has not doubled. Those individuals of this group who are earning double what they earned in 1914 are much better off now than they were then.

Does it cost the farmer and his family twice as much to live? Pretty surely not. Does it cost the doctor, the lawyer or the business man twice as much *to live* now as in 1914? Making allowance for individual exceptions it is safe to say that it does not.

If it does not cost us, as individuals, twice as much to live, why should the price of so many articles have doubled or more than doubled since 1914? Is there someone, either the producer of the raw material, the manufacturer, the wholesaler or the retailer, who is making an inordinate profit when a piece of cotton goods sells for 50 cents a yard now as compared with 20 to 25 cents in 1914? Is there profiteering going on when a steak costs $1.40, when this same steak would have cost about 80 cents in 1914? You can apply the question to shoes, hats, groceries, or what you will. You feel the same exasperation that you do about the piece of cotton goods or the steak. The increase in money cost seems beyond the proper or just amount of value.

One theory very widely held by economists is that the present high scale of prices is due almost entirely to the increase in the supply of money and rate at which money circulates. Very often, however, not enough stress is laid on the fact that it is the proportion of money to the sum total of consumable commodities that even under this theory is the governing factor in price inflation. Take the case of Germany. The amount of gold in the country must have remained not far from what it was in 1914. The amount of credit, however, based on this gold, has enormously increased. We may properly say, therefore, that the amount of money and its circulation has very greatly increased. If anyone doubts this or does not see it clearly, he should try to visualize the well-to-do German, who has had his wages increased and has subscribed for loan after loan of German bonds, and who all this time has lived under a government which so managed its fiscal and economic affairs that this man believes himself able to subscribe to more and more bonds. He may, by now, have bought government bonds to an aggregate face value of $8,000 and is nominally, therefore, not only $8,000 richer than he was in 1914 but is receiving an income of 5 per cent on this capital which he has accumulated during the four years of war. This has taken place on a huge scale, but in the meantime the actual stock of materials, food, coal, wool, iron and steel, has been greatly decreased. The relation, therefore, between money, using it in the sense to include credit as well as gold, and the supply of commodities has very greatly changed. There is far more money proportionately to the things which can be bought for money than there was at the beginning of the war. The fact that a ham sells for $25 in Germany is both because there are fewer hams to be bought for any price and because there is more money to buy hams. The German is, without question, worse off than he was at the beginning of the war.

In this country there are more hams, more wheat, more iron and steel produced than in 1914. It is probably true that with any of the commodities mentioned the increase in production has not been by any means as great as the increase in the total amount of money, again using the term to include both credit and gold. But while there is a greater production of nearly all commodities there is also a greater consumption of many. In other words there is undoubtedly great expansion of trade with increased cost of manufacture.

If, therefore, money is worth less measured in commodities and wages are actually as well as normally higher than in 1914 is not this the logical time to save money and invest it in some security which will fall due when money is worth more measured in commodities.

Moreover it is fashionable to save now just as it is fashionable to raise prices weekly.

Relations of Labor and the Government

THE FACT that a disagreement between the management of the Western Union Telegraph Company and an organization of labor men other than Western Union employees, may force the United States Government to take over the operation of the telegraph and telephone lines of the entire United States, emphasizes rather emphatically the interest which the investors, directly and indirectly, in corporation securities have in the proper working out of some better way for the settlement of industrial disputes, than the resort to strikes or lock-outs. In January, 1918, a war labor conference board was selected by Secretary of Labor William B. Wilson, and this board made a report on March 29, and on April 8 the President issued a proclamation creating the War Labor Board "to settle by mediation and conciliation" controversies which might arise between employers and employees. The American Federation of Labor chose the representatives of labor on the new board and the National Industrial Conference Board chose the representatives of the employers. The board thus selected chose ex-President William H. Taft and Frank P. Walsh to head it. The board was given power to summon both parties to a controversy and it was provided that the board's decisions should be unanimous, and failing this the controversy should be submitted to an umpire.

One feature of this provision was a distinct improvement over the usual procedure in like cases. It was provided that 12 umpires be appointed by the President and when a controversy arose one umpire should be selected by lot from the twelve to pass on the case. If this provision is carried out it will eliminate the danger of either side having undue influence in choosing an umpire.

In the Western Union case Mr. Taft and Mr. Walsh made a report to the board upholding the labor union against the Telegraph Company, with which report a majority of the board agreed, but the report was not unanimous. This would appear to be one of the cases where an umpire should have been called upon, but what happened was that the majority report was accepted by the press generally as being the official finding of the board.

The claim of the Western Union is that it has no controversy with its employees. An outside union with no membership so far as is known among the employees of the Western Union has demanded the right to recruit membership among Western Union employees. The company's answer consists of discharging employees who join the labor union. Whatever one may think about the merits of the controversy it must be kept clearly in mind that this is not a complaint on the part of the telegraphers working for the Western Union, but is an attempt on the part of a labor union to convince these employees that they have a grievance against their employers because they are not allowed to join the union. Whether or not the arguments of the union leaders have been convincing to the Western Union operators could only be determined conclusively by the labor union calling upon the men who are not its members to strike. If a strike of any considerable number of operators occurred the labor union would have demonstrated its power. If no strike occurred the Western Union would prove that its contention about its own employees was sound. The labor union's claim that large numbers of Western Union operators have been

discharged recently because they joined the union should be, however, subject to proof and details ought to be made public.

The great danger to investors lies in the possibility of this being made a political question and its merits lost sight of. It is one thing for the President to take over the operation of all the telegraph and telephone lines because the employees of the company and the management cannot come to terms, and quite another to take this momentous step because the labor leaders claim that they could persuade the Western Union's employees to strike.

Motor Car Companies' Securities as Investments

JUST at present the motor car situation in the United States is particularly interesting from an investment point of ciew because of the changing conditions in the industry, which apparently will make the stocks of some of the companies worth much more than they are now selling at, while these same conditions may make the stocks of other companies worth very much less than they are now selling at. The Government is ordering the curtailment of the manufacture of pleasure cars, but, on the other hand, is placing orders for motor trucks on a large scale. Had the Government continued the same policy as that adopted by our European Allies of placing orders for motor trucks of the standard already being manufactured by the different companies, these orders would have been a source of profit to quite a number of the motor car companies. The desire for standardization which at times appears to amount to a mania has led to the Government deciding, it is understood, to order only "Liberty" motor trucks, which are of a design worked out under Government auspices, and which are profitable to manufacture to but a few of the motor car companies.

Before discussing the present situation, however, it is worth while to review briefly the recent history of the motor car industry in the United States. Elsewhere in this issue there are brief reviews of the latest public annual reports of a number of the leading companies.

The development of the art of manufacturing reliable motor cars was slower at first in this country than it was in France and Germany, but from about 1900 on this country began to manufacture low-priced cars in large quantities. The market for these cars proved so large and the estimated profits so attractive that motor car companies were organized and reorganized with higher and higher capitalization, but without sufficient actual money being provided for working capital to meet the demands of the expansion which was going on in the manufacture and sales of cars. Many companies issued a volume of stock in payment of the stock and assets of predecessor companies wholly unjustified by the actual tangible assets which were taken over. This has necessitated the setting up of a bookkeeping asset which the different companies variously call good-will, patents, franchises, trade names, etc. While in all cases the placing of a value on this intangible bookkeeping asset is not in contravention of the facts, it is not conservative, sound bookkeeping for any large manufacturing concern engaged in an industry where patents may so quickly be superseded by new inventions and where merit of the product of a new manufacturer can so easily overcome the good-will or trade name of a long-established company to place a high value on patents and good-will. It is, on its face, far from conservative or sound to capitalize a motor car company—that is, issue stock to so high a par value—as to necessitate setting up a bookkeeping asset and good-will at $7,000,000 when the actual cost of the manufacturing plant is only two or three million dollars. If, of course, the stock had been sold for cash, there would have been nothing unsound in a comparatively small investment in fixed assets such as manufacturing plant, storage facilities, etc., because then the company would have had a large net working capital.

This low proportion of investment in fixed assets as compared with the investment in what are called inventories, that is materials, supplies, unfinished and finished parts of cars and uncompleted and finished cars, is characteristic of the motor car industry. Take the Packard Company, which is very conservatively capitalized and which carries its good-will, patents, etc., at the nominal amount of $1. Its investment in manufacturing plant and in branch houses total only $14,800,000, while its inventories total $22,600,000, and its total current assets, including these inventories, $28,700,000. With many other companies the proportion of investment in current assets, as compared with fixed assets, is much greater than with the Packard.

Companies, therefore, which have issued stock in payment of assets and stock of other companies to an extent which necessitated the setting up of a $5,000,000 or a $10,000,000 account, classed as an asset under the name good-will, patents, etc., have found it necessary to raise the money to pay for materials needed in a very rapidly expanding business and have had to have recourse to large bank loans. The recent history of quite a number of companies has been largely a record of a continued struggle to provide sufficient working capital and a struggle which has heretofore been successful only because the expansion in business was so rapid as to justify the banks in continuing to make large advances. A period of contraction may hit some of these companies very hard; especially would this be so if there were to be a sudden drop in the price of materials and the cost at which motors cars could be sold. The company with a large inventory, carried at prices representing the cost of materials within the last two years, and with large bank loans, would find itself in a most precarious position if prices of materials dropped to such an extent that inventories would have to be written down in value and not liquidated at their present unit costs.

In England the motor car companies have gone into the manufacture of war supplies or other supplies for the government to the entire exclusion of the business of manufacturing pleasure cars; and it is understood that many of them are finding this new line of work profitable.

There is no immediate prospect of any such drastic change as this in the United States. The manufacture of pleasure cars will be curtailed and the manufacture of trucks for commercial purposes will be subordinated to the needs of the government, but, making full allowance for this curtailment, there will still be a fairly large output of pleasure cars and an output of commercial trucks which will be limited in the case of some companies apparently, not so much by the demand, as by government requirements. The present situation, therefore, would appear to be something like this: Some companies have expanded so rapidly and have piled up bank loans to finance the purchase of material at extremely high prices to such an extent that if contraction in business comes, the discontinuance of dividends at least will take place and some of them may get into serious financial difficulties. This is assuming that the companies do not have the facilities for manufacturing either the standard truck required by the government or the "Liberty" motor for aeroplanes, at a profit. Other companies, not in so expanded a position financially, but which cannot manufacture the standard government truck or the "Liberty" motor profitably on any large scale with their present facilities, will have greatly reduced profits. They may or may not be able to continue preferred dividends. Still other companies will be able to engage in government work at a profit and, while there is an element of doubt as to whether this profit will prove as large as could have been made by the manufacture of pleasure cars and commercial trucks, it will be sufficient to carry the company over the next year or two. For the companies which can bridge the gap between now and the end of the war there would appear to be a very bright fu-

ture. The commercial truck business is just in its adolescence and the potential demands for domestic use are enormous and may become actual almost immediately following the declaration of peace. The tractor for farm use may prove to afford an outlet for the manufacturing capacity of some of the motor car companies.

Notwithstanding the huge destruction of wealth which is going on in Europe, there are a great number of people in this country who are making many times as much money as they have ever made before. The curtailment of the manufacture of pleasure vehicles will tend to increase the use of old cars, but as these become more and more thoroughly worn out, the potential demand for new cars will be continually increased.

The opportunity for the export both of pleasure cars and of motor trucks after the war ought to be very large indeed. Export houses, like Gaston, Williams & Wigmore, had succeeded before the entrance of the United States into the war in establishing a very large demand for American cars abroad, and their efforts and those of other export houses are being conserved and continued so that the prospects are that these export houses will be able to, almost immediately after the end of the war, begin to take orders for American motor cars on a large scale.

If an investor chooses a company, conservatively capitalized, with good-will, patents, etc., carried at a low or nominal figure and with net working capital sufficient to tide over one or two years of earnings and with a sufficient part of this working capital in the form of cash, he may find among the preferred stocks of the motor car companies a few which offer a high yield of return now on his investment, a fair degree of likelihood of the dividend rate being maintained, and most attractive prospects of a future enhancement in earnings, equities and market price.

Packard Motor Car Company

THE Packard Motor Company stock is not listed on the New York Stock Exchange. The common stock is selling, however, in the neighborhood of 125 and is paying dividends at the rate of 8 per cent a year. The preferred stock has regularly paid 7 per cent a year since it was fisrt issued. In 1917 the company had net earnings of $7,700,000. This was after the payment of manufacturing and sales costs and from this the company charged off for depreciation $2,300,000, leaving $5,400,000 available for dividends. Seven per cent on the preferred and 8 per cent on the common call for $1,470,000, so that the company had a surplus, after dividend payments, of $3,930,000. From October 31, 1917, to June, 1918, no dividends were declared on the common stock, but in June, 1918, 2 per cent in cash was declared. Whether this is a resumption of the 8 per cent annual rate through the payment of 2 per cent quarterly or not it is not certain.

The Packard Company is one of the few motor car companies that are conservatively capitalized, and this company carries its rights, franchises, good-will, etc., at $1. The manufacturing plants are carried at $11,222,000, and the investments in branch houses at $3,592,000. In addition to the preferred and common stock the company has $5,000,000 5 per cent notes, due October 16, 1919, outstanding. Accounts payable amounted, as of August 31, 1917, to $6,144,000, and notes payable to $3,975,000. The company had $1,094,000 cash and carried its stock of materials, finished and unfinished cars, etc., at $22,632,000. Bills and accounts receivable total $4,986,000. As regards net working capital, therefore, the company is in a fairly good position, although the liquidation of part of its inventories with an increase in the amount of cash on hand would materially strengthen this position.

The Packard, like the Pierce-Arrow, was originally engaged exclusively in the manufacture of high-grade and high-priced pleasure motor cars. In 1910 the company sold 3,990 cars and maintained about this rate until 1915, when 4,908 "vehicles" were sold. In 1916, 13,277 vehicles were sold, and in 1917 14,505.

In 1914 it was decided to begin the manufacture of a comparatively low-priced car with the hopes of getting quantity production. The Packard twin-six, selling at about $3,000, was put on the market. This was a very high-grade car for the price charged for it, but the company never had an opportunity to really test out quantity production because of the changed conditions due to the war, and especially the great increase in costs of materials. The Packard is manufacturing trucks and is at present engaged in work for the Government.

Maxwell Motor Company

PRIOR TO September 1, 1917, the Maxwell Motor Company owned motor car manufacturing plants at Dayton, Ohio, Newcastle, Ind., and Detroit, Mich., and in the annual report for the fiscal year ended July 31, 1916, it was said that the company was then in a position to manufacture more than 100,000 cars a year. At that time the company was manufacturing one model of chassis with five body styles. In 1917 it was said that the number of cars sold showed an increase of 39 per cent over the previous year and that sales contracts with distributors had been signed for 32 per cent more automobiles "of all models" than had been contracted for at the same period last year, and mention was also made of contracts for one-ton trucks to be manufactured during the 1918 fiscal year.

In January, 1918, announcement was made that on September 1, 1917, the company had leased for five years all the property and assets of the Chalmers Motor Company of Michigan, at a rental of one-half of the net profits derived from the operation of the leased property. This property consists of a motor car manufacturing plant situated on about 38 acres of land near the Detroit river on the Detroit Terminal Railroad, on the east side of Detroit, and has a capacity of about 30,000 pleasure cars a year and certain additional capacity which could be used for building motor trucks. The Chalmers Company also owns all the capital stock of the Chalmers Motor Company of Canada, which had a plant at Walkerville, Ont. This plant, however, was nearly entirely destroyed by fire in the latter part of 1917. The number of cars manufactured by the Chalmers Company in 1916 was 21,408 and in the period from January 1, 1917, to November 28, 1917, was 11,189 cars.

The Maxwell Motor Company was incorporated in 1913 and the first annual report covered the 12 months to July 31, 1914. Although the company's balance sheet showed real estate, buildings, machinery and equipment valued at $4,462,000 with the apparently far from conservative valuation of $26,500,000 for goodwill, models, patents, trademarks and trade names, the company showed good earning power on its $12,279,000 first preferred cumulative 7 per cent stock from the beginning of operations. In the 1914 fiscal year there were net earnings available for dividends of $1,500,000, while dividends on the first preferred called for $860,000. The first dividends, however, were not paid until July 1, 1915. Accumulated dividends were completely paid off in 1916, in large part through the issue of $1,620,000 additional first preferred stock. Regular quarterly dividends, at the rate of 7 per cent annually, were paid on the first preferred during 1916 and up to April 1, 1918. On this date the quarterly first preferred dividend was paid in dividend certificates bearing interest at 6 per cent, and due April 1, 1920, and again in this month, the quarterly dividends were paid in interest bearing script due July 1, 1920.

Before the lease of the Chalmers plants, the Maxwell

Company was apparently in a fair position, both as regards earnings and working capital. The company had $1,852,000 cash on hand and sight drafts with bills of lading amounting to $2,946,000, but of which $1,071,000 were discounted. The company had no floating debt and $1,933,000 audited vouchers payable and $945,000 unaudited vouchers payable. There were no bonds outstanding and no mortgages on the property. Earnings for the year ended July 31, 1917, amounted to $5,508,000 and the company paid out $2,862,000 in dividends. This included the regular 7 per cent dividends on the first preferred stock and 6 per cent on the $10,127,000 second preferred stock and 10 per cent on the $12,778,000 common stock. The declaration of the common dividend was not particularly conservative, the cash position of the company hardly justifying such action. The Chalmers Company, when it was leased, had only $393,000 cash, but raised $3,000,000 additional through the issue of $3,150,000 first mortgage 5-year notes. In addition to these new notes, the company had bank loans of $2,637,000, and the lease provided for the extension of these notes to March 1, 1918, and the further extension of the notes by six months periods upon payment of 15 per cent on March 1, 1918, 20 per cent on September 1, 1918, 20 per cent on March 1, 1919, and 20 per cent September 1, 1919. The working capital raised by the Chalmers Company would have been presumably sufficient for the business which was being done in its plants, and even after the 10 per cent payment on the Maxwell common stock, the two companies might presumably have had sufficient working capital, had it not been for the drain during the latter part of 1918 and the first part of 1919, because of the requirements for paying off the Chalmers Company's floating debt to the banks.

At present the Maxwell Company's first preferred stock is selling in the neighborhood of 55, the second preferred in the neighborhood of 20, and the common stock in the neighborhood of 28. Even the first preferred stock would have to be put in the class of wholly speculative investments.

Pierce-Arrow Motor Car Company

If one knew nothing about the mechanical qualities of the motor cars which the Pierce-Arrow Motor Car Company manufactures, a study of the company's annual report would, nevertheless, produce the impression of strength and solidity. On the other hand, the cars themselves are of so high a quality that one feels instinctively that they must be manufactured by a financially strong company. Of course, the company itself has most cleverly and successfully attempted to convey just this impression of quality in its advertising. It has been the only large American company which has without interruption tried for quality rather than quantity production of cars. Its pleasure car sells for from $4,300 to $7,200. At one time in the company's recent history plans were seriously considered for going into the manufacture of a low-priced car on a large scale. Instead, however, of doing this, the company began the manufacture of motor trucks. This, as events turned out, was a most fortunate decision.

The present company was incorporated in 1916 and the first annual report is for the calendar year 1917. In that year the gross sales amounted to $32,566,000, comparing with $18,687,000 gross sales in 1916. The company, after paying manufacturing costs and charging $488,000 for depreciation, and after deducting $1,162,000 for excess profits, war taxes, etc., had a net profit of $3,599,000. The company has no bonds outstanding and at the end of the year had borrowed from the banks $4,500,000. There is outstanding $10,000,000 8 per cent cumulative convertible preferred stock and 250,000 shares of no par value of common stock. The 8 per cent dividends on the preferred were paid and $2.50 per share was paid during 1917 on the common stock. This called for $1,425,000, so that the company carried $2,416,000 over as a surplus.

Unlike most motor car companies, the Pierce-Arrow does not carry its patents, good-will, etc., at an absurdly high figure. This company carries them at only $6,351. The plant of the company is located on 43 acres of ground on the Belt Line of the New York Central at Buffalo. In 1915 the company manufactured and sold 4,665 cars, and in 1916 4,623 cars. Presumably, in 1917, the increase in number of cars was roughly proportionate to the increase in gross sales which, it will be remembered, were about $18,500,000 in 1916, and 32,500,000 in 1917. During the year 1917 a new building of the Pierce-Arrow uniform type of reinforced concrete was built, having 100,000 square feet ef floor space, and the company also bought 17 acres of land adjoining its property on the East.

Since the entrance of the United States into the war, the Pierce-Arrow, like other motor car companies, has curtailed the manufacture of pleasure cars and is engaged in manufacturing trucks both for the Government and for commercial purposes.

The preferred stock is selling at about 98, which, at the present rate of dividends, yields slightly over 8 per cent interest on the investment. The common stock, which has no par value, and paid in 1917 $2.50 per share in dividends, is selling in the neighborhood of $40 per share, yielding a little over 6 per cent interest. The preferred stock may fairly be said to be a legitimate investment for a man or woman not wholly dependent on their income from investments for a part of their funds. The common stock appears to have speculative possibilities, but could hardly be called an investment stock.

General Motors Corporation

The General Motors Corporation maufactures the Buick, the Cadillac, the Oakland, the Olds cars, General Motors trucks, and Sampson tractors, and has recently acquired the Chevrolet. At present the company's plants are also engaged in a very large amount of government work. The company is today one of the most prosperous of the motor car companies, and its prosperity is founded on a sound and conservative record over a number of years. It is one of the few motor car companies which has not had to finance its rapid growth in business through large bank loans. At present General Motors Company's common stock is selling in the neighborhood of $120 per $100 share and is paying dividends at the rate of $12 per share.

In the five months from August 1, 1917, to December 31, 1917, the corporation and its subsidiary companies had total sales amounting to $96,296,000, and during these five months the company sold about 87,000 cars. After the payment of manufacturing and sales costs and a liberal provision for federal taxes, the company had available for dividends $14,385,000 for the five months' period. Preferred dividends at the rate of 6 per cent call for $492,000, so that the company earned on its outstanding $76,873,000 common stock $13,793,000 for the five months, or at the rate of over $39,000,000 per year, or more than 50 per cent on the common stock.

The General Motors Corporation was formed in October, 1916, and took over the assets and liabilities of the General Motors Company and in August 1, 1917, exchanging five shares of corporation common stock for each share of General Motors Company's common stock and 1⅓ shares of corporation preferred stock for one share of General Motors Company's stock. In other words, it increased the amount of common stock outstanding by five times by the device of giving to a holder of one share of stock of the old

company five shares of stock in the new company, the General Motors Corporation. This reorganization, of course, brought no new capital into the business but apparently no new capital was needed. On December 31, 1917, the company had $18,866,000 cash, $1,225,000 second Liberty Loan bonds, and $13,586,000 notes and accounts receivable, besides having on hand materials partly finished and finished motor cars costing $46,559,000. The company has no bonds or funded debts outstanding and only $10,666,000 accounts payable which represent the current bills for merchandise, etc. This appears to be quite conservative for a company doing the volume of business which General Motors Corporation is doing.

The reasons why the company was able to in effect pay a stock dividend of 400 per cent in 1917 and to still be in a condition to warrant the payment of 12 per cent annual dividends on this greatly increased amount of stock are to be found in the very conservative financial policy pursued from 1910 to 1916, and, of course, in the success which has been met with in the profitable manufacture of motor cars. In the ten months ended July 31, 1911, the company's net profits amounted to $3,316,000; and of this amount only $506,000 was paid out in dividends; in 1912, $3,896,000 was earned and only $1,040,000 paid out in dividends; in 1913, $7,459,000 was earned and $1,049,000 paid in dividends; in 1914, $7,250,000 was earned and $1,049,000 paid out in dividends; in 1915, $14,458,000 was earned and the same amount paid out in dividends as in 1914. During these four years and ten months, therefore, the company earned, after paying expenses of manufacture and of sales and after paying interest on its outstanding bonds and making liberal allowances for depreciation, $36,379,000, while it paid out in dividends only $4,693,000. The fiscal year, ended July 31, 1916, was prosperous beyond any expectation; $28,790,000 being earned after the payment of expenses and interest. The regular 7 per cent dividends were paid on the preferred stock, calling for $1,049,000; and, for the first time, dividends were declared on the common stock, the first being a dividend of $50 per share, followed by a dividend of $10 per share in February, 1916, and $5 per share in May, 1916. During the four years and ten months prior to the extraordinary year, 1916, the profits which were put back into the company were used to pay off entirely the $14,000,000 6 per cent, five-year notes which were the only funded debt of the company outstanding in 1911; to increase the investment in real estate, plant, and equipment from $17,633,000 to $22,753,000; and to increase the cash on hand from a little over $4,000,000 to over $14,500,000.

The company's balance sheet shows under assets $11,698,000 good will. To offset this, however, the company shows a surplus of $11,508,000, so that the outstanding stock represents tangible assets.

The Studebaker Corporation

FIFTY YEARS AGO, the Studebaker brothers were manufacturers of wagons and harness. In 1868, it was decided to incorporate the business, and, by the late nineties, Studebaker Brothers Manufacturing Company was the largest producer of horse-drawn vehicles in the world. Up to the time—1908—that the company took over an automobile manufacturing company, it had manufactured and sold more than 1,000,000 buggies, carriages and wagons. As early as 1902, Studebaker Brothers had begun the manufacture of "horseless carriages"; the first type being electric and later gasoline cars were built.

In 1908 a company which was organizing to build inexpensive light gasoline automobiles, the Everett-Metzger-Flanders Co. of Detroit, was approached, and a working agreement made with it; and in 1910 the new company, the Studebaker Corporation, was formed, taking over the business of Studebaker brothers and of the automobile manufacturing company. From 1910 to 1916, inclusive, the growth of the manufacture of automobiles by this new corporation was very rapid. In 1916, 65,685 cars were sold, and the company had a profit available for dividends of $8,611,000. In January, 1917, the common stock of the Studebaker Corporation was selling at above par and was paying 10 per cent dividends. Prior to 1915 the business of the Studebaker Corporation had been confined to the manufacture and sale of pleasure automobiles, on the one hand, and wagons, carriages and harness, on the other. In 1915, a considerable volume of war orders were executed, and the total sales, which amounted to $56,500,000, included $13,550,000 war orders. In 1916, however, the company had finished nearly all of this war order business, and of its $61,990,000 total sales, only $2,790,000 was war orders, and only about $50,000 profit was made on these war orders, so that practically all of the $8,560,000 profit available for dividends, mentioned above, was from regular business.

In 1917 there came a severe slump in the sale of pleasure cars, and the Studebaker Corporation was especially hard hit because it had been making a four-cylinder, seven passenger car, selling at about $1,600. The demand for cars selling under $900 remained fairly good, but the demand for the more expensive car which the Studebaker Corporation was selling fell off sharply.

After our entrance into the war, the Studebaker plants were placed at the disposal of the government, and at present about half of the plant capacity is being used in the filling of government orders.

In 1917, total net sales amounted to $50,148,000. After paying all the costs of manufacture and of sales, and after charging off $415,000 for depreciation, and paying interest on bonds and taxes, there was $3,500,000 profit. The company paid the regular 7 per cent dividends on the preferred stock, and, in the first half of the year, paid 5 per cent on the common stock, since the prospects that time were thought to justify a continuance of a yearly rate of 10 per cent. In the second half of the year, however, conditions had so changed that only 2 per cent was paid on the common stock, which would indicate a yearly rate of 4 per cent. Dividends called for $2,867,000, so that there was about $600,000 to be carried to profit and loss.

The sum and substance of the 1917 year, therefore, is disappointment. Common dividends were reduced from 10 per cent to 4 per cent; the price of the common stock declined from above par to about 34 and is now selling about 45. If one hundred shares of the stock had been bought in January, 1917, it would have cost about $11,000, and the yearly interest return would have been $1,000. A hundred shares of stock now would cost $4,500, and the interest return would be $400 a year, or, to put it another way, the $11,000 invested in January, which would have brought $1,000 a year income, invested now would bring about $980; so that actually the stock is valued by the market at a little higher price now, when measured in terms of dividend return, than it was in January, 1917.

The reason for this is that, apparently, the company has gotten itself, despite the disappointments of 1917, into a somewhat more sound financial position.

On December 31, 1917, the company had notes payable, that is—had borrowed from its banks—$7,400,000, and in addition, owed for materials, etc., $2,092,000. At the same time there was $2,529,000 cash in the company's treasury, and customers and dealers owed it $9,325,000, and it had materials for building automobiles, wagons, etc., valued at $21,322,000. This is comparatively a strong position as regards current assets and current liabilities. The value of its real estate, buildings and machinery, after allowing for depreciation, is fixed at $15,477,000. It carries as an asset also its trade name, good will, patent rights, etc., at a

valuation of $19,807,000. There is outstanding $10,965,000, 7 per cent cumulative preferred stock, and $30,000,000 common stock. There is also total surplus and reserves of $17,855,000. It will be noticed that this bookkeeping liability of surplus and reserves, in large part, offsets the bookkeeping asset of trade name, good will, etc.

If the company continues to pay only 4 per cent on its common stock, dividend requirements, including the 7 per cent on the preferred, will amount to $1,968,000 only. Present indications are that the company will have for 1918 a substantial sum over this amount which can be used to pay back some of its bank loans.

The company is now planning to manufacture and sell 3,000 pleasure cars a month. It has three new models; one a four-cylinder, 112 in. wheel base, five-passenger car, selling at $895; one a six-cylinder, 119 in. wheel base, five passenger car, selling at $1,295; and one a six-cylinder, 126 in. wheel base, seven passenger car, selling at $1,695.

The crucial point about the stock value of the Studebaker Corporation now would appear to be the question as to profit which they are making on the government work which is occupying one-half of their plant capacity. Until something is known about this a purchase of stock would be a speculation not based on the necessary knowledge.

The Chandler Motor Car Company

THE STOCK of the Chandler Motor Car Company, selling at present at about $83 per $100 share, and paying quarterly dividends of $3 a share, or at the rate of 12 per cent annually, would yield an interest return of about 14½ per cent. The company had at the end of 1917 almost no floating debt, was in a fair cash position, and had completed a prosperous year.

The present company was incorporated in 1915, taking over the business of a company of the same name. The automobile manufacturing plant is situated on a little more than eight acres of land, owned outright, on East 131st street, Cleveland, Ohio. In 1917 it is estimated that about 15,000 cars were manufactured, comparing with 13,000 cars in 1916 and 8,000 cars in 1915. In 1917 gross profits, after the payment of materials' cost and manufacturing cost, amounted to $3,248,000. Selling expenses and an allowance for depreciation amounted to $895,000, leaving $2,382,000. From this must be paid the federal income and excess profits and war taxes. In its annual report the company makes no estimate of what these taxes will amount to. There was paid out in dividends $910,000 which represented 12 per cent on the $7,000,000 outstanding stock and 1 per cent extra as a Red Cross dividend. This would leave $1,472,000 surplus after payments which would appear to be amply sufficient to draw on for war and excess profits taxes and to leave a margin to be added to the bookkeeping account surplus. In February it was reported that the output of pleasure cars would be curtailed to about 10,000, and later in the same month it was reported that the company had received an order to build army tractors, the orders aggregating from $10,000,000 to $14,000,000. Plans were said to be under way for building an addition to the equipment plant to take care of the Government business.

At the end of 1917 the company had $699,000 cash and $279,000 Liberty Bonds, with $210,000 dividends payable January 10. The only other current liabilities were a few thousand dollars accrued taxes. The company carries its land and buildings at a valuation of $510,000 and its factory equipment and tools at $140,000 after an allowance had been deducted for depreciation. Inventories, which means materials, supplies, unfinished cars, etc., were valued at $3,019,000, representing the cost price. The company carries its good-will at a value of $5,000,000. Eliminating this good-will item and substracting current liabilities, we have an assets' value for the $7,000,000 stock of $4,751,000. This is about a million dollars lower than the valuation placed on the stock by the market price of 83. In other words, the price of 83 represents an adjustment between what the earning power of the stock would justify as a price and what the assets' value of the company's plants, inventories, etc., would justify as a price.

Willys-Overland

THE GROWTH of business of the Willys-Overland Company, which manufactures the Overland automobiles, the Willys-Knight engines, and Federal motor trucks, has been very rapid in the last few years. In the calendar year 1917 about 140,000 cars were sold, and this would have been a much larger figure had it not been for the inability of the company to obtain sufficient transportation, and also to get the tools necessary to manufacture two new models of cars. In 1916 the company sold over 142,000 cars, and in 1915 over 95,000 cars.

The rapidity of the growth of this business has necessitated a rapid extension of credit, so that at the end of 1917 the company's balance sheets show a rather large amount of current liabilities, although these are offset by current assets, which include over $36,500,000 materials, supplies and finished and unfinished cars. The company had $11,849,000 notes payable and $7,538,000 accounts payable with cash on hand of $11,405,000. In 1915 the company had outstanding $4,484,000 of 7 per cent cumulative preferred stock and $21,000,000 of common stock. Against this it had tangible fixed assets of $17,903,000, including real estate buildings, machinery, equipment, etc. It also carried as an asset the sum of $14,060,000 as the bookkeeping value of its good-will, patents, trade marks, etc.

In that year the company earned a net income, available for dividends, of $10,871,000. This was after paying manufacturing expenses, selling expenses and making allowance for depreciation and losses. From this the company set aside $1,000,000 as a reserve for contingencies. By the end of 1916 the outstanding stock had been increased to a total of $57,392,000, of which $3,474,000 was cumulative preferred stock, $14,533,000 7 per cent cumulative convertible preferred stock, and $39,385,000 common stock. Bank loans had increased from $10,200,000 at the beginning of 1916 to $11,849,000 at the end of the year. At the end of 1917 there were bank loans of $16,120,000 and advances from the Government on a contract for Government work of $2,500,000, making a total, including amounts owed "sundry persons," of $20,438,000. Cash on hand amounted to $9,594,000, and materials and supplies and finished and unfinished cars were carried at a valuation of $40,590,000.

In 1917 the company earned $10,193,000 after paying manufacturing and sales costs and providing for federal taxes. From this there was charged off $2,921,000 for depreciation, tool replacements and the value of parts of discontinued models. Interest charges amounted to $1,151,000, leaving $6,122,000 available for dividends. The 7 per cent on the preferred stock call for $1,138,000, and there was $4,885,000 paid in dividends in cash on the common stock, and, in addition, there was a dividend of $1,966,000 declared payable on the preferred stock.

During the year the company acquired the Curtiss Aeroplane & Motor Corporation through the purchase of $2,400,000 7 per cent cumulative preferred stock, $6,000,000 common stock, and $1,600,000 10-year 6 per cent notes of the Curtiss Corporation.

Fifth National Foreign Trade Convention

Abstract of Four Papers Dealing With Different Phases of the Development of Foreign Trade

THE FIFTH NATIONAL Foreign Trade Convention was held at Cincinnati in the later part of April, 1918. The convention was called to consider both the part of foreign trade in winning the war and the problems to be solved after the war. The following are abstracts of four important papers read at the convention:

Financial Efficiency in Foreign Trade

By Charles A. Hinsch,
President American Bankers' Association.

If we are to successfully compete for a share of the world's trade, we must co-operate and co-ordinate our efforts.

In a recent address Judge Gary, chairman of the board of directors of the United States Steel Corporation, stated that Germany was stronger than ever, and that so far the fruits of victory belong to the central powers. Also that Germany has mobilized and co-ordinated every last atom of her resources of brain and material for winning the war and the Prussians have perfected a centralized, comprehensive, powerful business organization which considering its size and ramifications, has never before been approached. He urged American business men to prepare for unprecedented competition for world business after the war. International as well as national co-operation may be imperative in the commercial struggle that will follow the declaration of peace.

MERCHANT MARINE

America, if given an equal chance with the people of other nations, will furnish business to comfortably support a merchant marine second to none. We are in the midst of a shipbuilding program which, if carried forward to a logical conclusion, will provide this nation with a tremendous fleet of ships, which will be of great benefit for and during the period of the war, in carrying supplies of all kinds to our boys at the front and to our allies, but unless our laws are changed, what is to become of this splendid fleet at the termination of the war? The LaFollette bill, known as the Seaman's act, should be eliminated from our statute books and a government subsidy in some form should be provided which will place the shipping of this country on a basis which will enable it to compete successfully with the shipping of other nations. Never again should we be placed in the embarrassing position in which we found ourselves at the beginning of the world war, when ships flying the flags of other countries were commandeered by those nations to carry supplies needed by them for the successful prosecution of the war, thus leaving us completely stranded and at the mercy of other nations for the transportation of our products to all parts of the world.

ECONOMIC COMMISSION

There is no time like the present to take an inventory of our needs and to proceed at once to place ourselves in an impregnable position so that we can hope to compete successfully with other nations when peace shall be re-established. We have not done much yet in this regard. In fact, we have paid less attention to it than any other belligerent powers, including Germany.

England, France and Germany have appointed commissions having for their purpose the careful consideration of the economic problems that will follow immediately after the close of the war. We hope to emerge from this conflict better prepared to enter the struggle for commercial supremacy than we have ever been during our national existence. We shall have learned lessons of efficiency and co-operation that should be potent factors in placing our people in a commanding position to win our full share of the world's commerce. It is to be hoped, therefore, that an economic commission will be provided by Congress at an early date that will give due consideration to this all-important subject.

Great Britain and France have had economic conferences which have made some study of the business possibilities after the war, particularly with a view to meeting prospective competition from Germany.

The horror of German policies and the hatred of everything German is sinking more and more deeply into the minds and hearts of the people of the world. Germany has been digging her commercial grave and she is diligently enlarging it at every opportunity.

FINANCIAL EFFICIENCY

Our job is to consider what we should do, and when the war ends, to determine what we can do and then do it. The problems in this respect are not new to the men who gather at the meetings of the Foreign Trade Council. But preparation for meeting them may go on, and in this meeting we may consider the points connected with the methods of assisting American manufacturers to finance their foreign trade. These may be divided into export and import business and then into temporary financing and the providing of capital requirements.

The capital requirements involve the providing of capital to various industries by investors and this, of course, involves the underwriting and selling of securities in this country. The principal purposes for which capital must be supplied are government loans, railroads, public utilities, mines and industries. There is also large opportunity in many countries for the making of loans on lands and from such investments there would be a return in increased business for this country.

Providing capital, as outlined above, is not the function of a commercial bank. Business of this kind must be developed through investment concerns which have active and well developed sales organizations. Little progress will be made in inducing American investors to buy securities of this character until the investing public is educated to the advantage of making such investments. Commercial banks can, of course, co-operate to the extent of bringing the attention of properly equipped investment houses to the opportunities that arise and supplying information of the kind that will be needed in some instances.

The distinctly commercial business involves the financing of merchandise for import or export and can readily be handled by the commercial banks already in operation. Exports will be handled either: (1) Through letter of credit issued at the request of the foreign purchaser. (2) By draft drawn at sight or time by the exporter on the foreign purchaser. These bills are handled by commercial banks. (a) For collection. (b) By purchase with recourse to the drawer. (c) By outright purchase without recourse. (d) By an advance of from 50 to 90 per cent of the face value of such drafts.

In some instances arrangements may be made for the shipment of the merchandise to a bank in a foreign country, such merchandise to be delivered to the purchaser in installments either for cash or in exchange for a note or acceptance.

The same methods will be followed as to imports into this country and they may be financed in the same way as exports.

Branch Banks in Foreign Lands

The banks of this country have been expanding into foreign fields and are better equipped generally for the handling of foreign business. In view of the fact that three years ago foreign branches were maintained only by one or two private banking houses, great progress has been made. This progress has resulted from the privilege of establishing branches conferred by the Federal Reserve act. Individual concerns of large resources have acted on their own initiative and by themselves. One institution has been organized especially for foreign banking and another has been organized by numerous banks joining together as stockholders.

In a general way the business sought by these institutions has been commercial, although some have given attention to development enterprises and the investment of capital. The enormous demand on the financial resources of the country has made impossible the sending of capital abroad except as the result of government action and for purposes closely related to success in war. We may, however, hope that there will be more attention directed to this department of foreign banking later. We are expending great sums of money for war purposes, but we are also becoming the debtor of many other nations. The obligation of this government to pay large sums for maturing obligations and for interest due will continue long after the war but we may not forget that certain drains on the national resources have been stopped. Before this great war started, Great Britain so far as the statistics showed, had annually a large adverse trade balance. But Great Britain also had flowing toward London what was called an "invisible import item" consisting of funds earned by her thousands of freight ships, of returns from millions of investments in foreign lands and from the operations of her insurance and banking concerns abroad.

United States a Creditor Nation

The United States has got out of debt to the world since August, 1914, and the world has got into the debt of the United States. Instead of sending hundreds of millions abroad each year to pay for capital advanced to us, we will receive hundreds of millions as the result of our advances of capital to our allies during the war. Despite the increasing war debt, this country should be at least in a better position than any other to make capital advances to other nations when the war ends.

Maintaining the Parity of the American Dollar

In the meantime, as the result of war operations and the care with which we are nursing our gold stocks, we are meeting adverse balances in neutral countries and the exchanges are running heavily against us. England seems to have guarded her exchange position better than we have and better than any other nation. Not yet has the pound sterling fallen into disuse as the result of the war although the dollar has established itself to some extent.

This situation is most annoying in connection with the building up of our foreign trade and measures should be adopted as soon as possible that will stabilize and maintain the parity of the American dollar throughout the world. This is a subject that should receive our careful thought and attention and it is to be hoped that a discussion of the subject will evolve some constructive plan that will solve the exchange problem. In a recent address Senator Owen made the following statement:

"With a trade balance in our favor of over $3,000,000,000 for 1917, and with the American dollar backed by the largest amount of gold in the world, and backed by the most active industrial life in the world, the American dollar is at a discount in the neutral countries of Europe of over 20 per cent, and even in South American countries is at a discount as high as 20 per cent. The secretary of state a few days ago, before the committee on appropriations of the House of Representatives, found it necessary to point out in his testimony the astonishing condition that the American dollar was at a discount practically all over the world when all the world is indebted to America."

Section 25, Paragraph 156 of the Federal Reserve act provides that the Federal Reserve Board shall have power to establish branches in foreign countries or dependencies or insular possessions of the United States for the furtherance of the foreign commerce of the United States. It might be well to consider the desirability of appointing a committee to confer and co-operate with the Federal Reserve Board, having in view the adoption of a policy which will establish and maintain the parity of the America dollar in the markets of the world.

Federal Charter for Foreign Trade Banks

The Federal Reserve Act provides for the establishment of branches in foreign countries by member banks having a capital of not less than $1,000,000, with the approval of the Federal Reserve Board and by amendment, the Federal Reserve Act also permits member banks to take stock in banks organized to promote foreign trade.

In conclusion, I think we should suggest to the National Foreign Trade Council the adoption of resolutions urging the introduction and passage of—

(1) Legislation that will place our shipping on an equal basis with that of other countries;

(2) The appointment of an economic commission, that we may prepare now for meeting conditions that will confront this country at the termination of the war;

(3) Appointment of a committee to confer and co-operate with the Federal Reserve Board in the adoption of a policy which will stabilize and maintain the parity of the American dollar in the markets of the world;

(4) Approval of the Glass bill providing federal charters for banks engaged in foreign trade;

(5) The appointment of a special committee to co-operate with the United States section of the International High Commission.

American Investment Abroad and Essential Raw Material

By Percival Farquhar
President Brazil Railways Company, New York.

Fortunately nature has richly endowed us in the vast extent of our country, with its fertile soil, immense and varied mineral resources, especially quantity, quality and distribution of coal and iron, that we need to look abroad for the lesser part of our raw materials, including foods, than is the case with most other nations. Nevertheless, this part is essential to our industries and its aggregate value, about $1,500,000,000 in 1917, will grow in volume as years go on.

To safeguard our national industries American interests should own:

Quebracho forests and tanning extract plants in Argentina and Paraguay—An American company has recently acquired a large extent of these quebracho forests and is erecting a tanning extract plant which will be in operation about August of this year;

Nitrate of soda deposits and oficinas in Chili—The development properties are almost exclusively owned and operated by English companies whose large earnings might make it difficult to acquire any of them on a reasonable basis, but the Government of Chili still owns a considerable extent of undeveloped nitrate beds which might be acquired;

Balsa wood forests in Central America to replace corks for refrigeration of warehouses, cars, steamers, etc. It is much lighter than cork and when treated is durable and withstands water—American interests now own some of these forests and have commenced bringing this wood to the United States;

Sisal properties in Yucatan. Perhaps the cheapest and easiest substitute for Indian jute would be twine and thread made from kraft paper treated so as to make it unaffected by moisture, for which the further development of this industry in Germany would be helpful to us;

Rubber properties in the Amazon valley and in the Orient. The latter has the advantage of the cheapest labor in the world and the cheap cost of living which goes with it. There is land still available in the Straits settlement, in Sumatra and in the Philippines. The Amazon valley has the advantage of proximity and of an immense extent of virgin rubber forests in their original habitat of a soil and climate perfectly adapted to rubber, but it does not enjoy the advantage of cheap labor and cheap cost of living. The production in the Amazon valley of its own food products, for which it is well fitted, tends to reduce the price of labor—American interests could acquire immense tracts in the Amazon valley at nominal prices, containing large rubber forests which could be supplemented by plantings between the wild rubber trees to facilitate the gathering of the rubber;

Iron ore deposits in Cuba, Colombia, Venezuela and Brazil—American interests own some of these and could easily acquire more on reasonable terms. They are generally situated conveniently near seaports for export, except in the case of Brazilian ore, where the vastness of the deposits of especially high grade ore low in phosphorus makes it worth while to take measures to treat in a large way the problem involved in transportation 300 to 400 miles to the seaport. This was about to be done before the war by strong English interests owning large ore fields there;

Manganese deposits in Brazil and Central America—American interests are developing some of these and are likely to increase this development as the supply of Russian manganese now cut off through the closing of the Dardanelles may be so at other periods in the future, and Indian manganese first stopped by export regulations of the British government and later by lack of shipping is subject of future interruption of the same sort;

Vegetable oils, cocoanut and soya beans are largely responsible for recent increases in oil imports. The countries bordering on the Caribbean and Brazil are eminently adapted to the cultivation of cocoanut plantations, one of the most profitable of crops as also of castor beans giving the oil most suitable for use in aeroplanes;

Tin ore in Bolivia with smelters in the United States or there—The ownership of the largest deposits of tin ore are divided between the British and Bolivians. Bolivia is rich in tin and it should be practicable for American interests to obtain ownership of a sufficient part of this supply, which should be sent to smelters here and not, as previously, to Europe, from which practically our entire supply now comes, as it smelts the tin of Bolivia as well as that of the Straits settlement and Cornwall;

Sugar and molasses in Cuba and Hawaii—in which American interests have large holdings;

Cattle and meat supply in Central America, Colombia and Venezuela, Brazil and countries tributary to the River Plate—now largely cared for through American packing houses while others are under construction and in contemplation. The competition of other nations in this field, though existing, is relatively small;

Cocoa in Ecuador, Central America and Brazil—America is the largest user of cocoa and it would be easy for it to have an ownership in these very profitable plantations. They might be conducted to advantage in connection with rubber exploitation in the Amazon Valley, where it grows wild and it is particularly adapted to cocoa;

Bananas and other tropical fruits in Central America, Panama, Colombia and the West Indies—American interests are pioneers in this and have well in hand the plantations, railways, ports and steamers and all of the instrumentalities required in their production and delivery to the market.

For the safe and advantageous operation of these properties the ownership must be in many cases supplemented by the control of railways connecting them with the ports of export, and of steamship lines to the United States. For the profitable operation of the latter after the war not only is a radical revision of our present navigation laws required but also the addition to outgoing freight of American coal and supplies to railways and other properties in the countries for which they are destined, and experience shows that this will only be the case if these properties are under American control. It is the heavy tonnage of coal, approximately 50 per cent of the outgoing cargo of British steamers taken at times suiting their cargo space which in its direct and indirect effects, such as fuel for the steamers themselves, is one of the large factors in Great Britain's predominance in the ocean carrying trade.

Many of the raw materials and foods imported pay export duties to the countries of origin and in a larger proportion of cases the companies producing them pay excess profits and income taxes to other countries in which they are organized. In addition to this the cost and regularity of their delivery to us is affected by the length and condition of ocean transportation and by special regulations often pertaining to their export from the country of supply, as in the case of manganese from India, rubber from the Strait Settlements, tin, wool, etc.

Ownership of the sources of supply would give freedom from excess profits and income taxes of countries other than those where the supply is situated which must be paid in any case as well as the advantage in any industry attendant upon such ownership. The countries in which ownership is sought will be preferably those with whom our relations are the least likely to be disturbed by war or other causes, and where the lines of communication are the shortest. This, other things being equal, points to the countries of our own hemisphere, with whom our relations are likely to become increasingly intimate under development of the spirit of the Monroe Doctrine.

The war demonstrates the necessity of having the whole industrial organization of the country safely within its own control from the raw materials to the finished product at its destination. Any link that is lacking in the complete chain may place in jeopardy the economic life of the nation and to make ourselves secure against it requires a close correlation between government and business.

To determine what should be done by the government we have to agree upon a point of view for its action, which would seem to be to the best interest of the whole country, considered as a great corporation, with the entire American people as its stockholders. From this point of view the importance of co-ordination of American effort and the wastefulness of needless American competition with Americans is apparent, although contrary to the theories of political economy taught in our schools and colleges and to the theory of untrammeled competition underlying our anti-trust laws and other uneconomic legislation. But one of the fortunate legacies of this terrible war is likely to be the replacing of this theory by the saner one of well planned co-ordination, so that our national effort may be the sum total of our individual efforts.

There is no contravention of democracy that our government should take a leading part now and after the war in planning and directing this co-ordination, for democracy concerns the method of selection and replacement of those who govern us and does not necessarily detract from their power or authority. Were it otherwise, democracies would be condemned inherently to be less efficient in the interests of the people who constitute them, which we would not like to believe.

Organization of a District Export Selling Company Under the Webb Bill

By George H. Charls,
American Rolling Mill Co.

It is the purpose of this paper to deal with the organization of a district export selling company under the Webb bill. It seems obvious that a simple plan, conservatively drawn, on a non-pretentious scale, will be the easiest to inaugurate. Before comprehensive plans may be followed, a great amount of educational work must be accomplished. It is evident that this preliminary work must be done if America, as a whole, is to benefit as it should in the new freedom this bill offers exporting companies.

Proceeding on the assumption that "what is everybody's business is nobody's business," and that the executives engaged in export business, who have vision, are too busy to carry on this vital educational work, the reason and paramount need for district organization under competent management is apparent. Individualism is an American characteristic. It will require continuity of educational effort and encouragement before unity of action and purpose can gain maximum efficiency. It will also require time to foster the spirit of Americans for America. "In unity there is strength." Not the success of the individual company, but the success of all American business, must be the goal.

This is not an altruistic doctrine; it is sternly practical. Too often our selfish ambitions deprive us of the vision and the opportunity to attain the very thing we most desire. In this case, the fact is so pertinent that we must organize in order to duly appreciate the importance of co-operative foreign selling. The first step in organizing a district export selling company, in accordance with the principles of the Webb-Pomerene bill, would be for five or ten of the leading exporters in the district to meet informally and discuss the idea, determine the extent of the district geographically, and outline plans for organization and operation.

A prospectus should be formulated upon following lines:

The geographical extent of a district will naturally vary with the proximity of the cities within the district to the central, or hub city.

The Ohio-Miami Valley District should comprise:

Cincinnati and suburbs, Portsmouth, Ironton, Chillicothe, Washington Court House, Wilmington, Dayton, Piqua, Troy, Springfield, Middletown, and Hamilton, Ohio; Richmond, Lawrenceburg and Aurora, Ind.; Ashland, Newport and Covington, Ky.

The plan of operation should call for the organization of a district export selling company (hereafter called "company" for the sake of brevity), including all the export concerns in the district, under the leadership of a competent, experienced export executive, with headquarters at some central point in the district.

The purposes of such company should be:

1. To obtain a competent business manager, and to provide offices for him and his assistants in the central or hub city of the district.

2. (a) To consult with the boards of education, the universities, colleges, Y. M. C. A.s, schools and business colleges, so that they may see the wisdom of introducing practical export trade studies in their respective institutions, which would encourage the youth to look forward to, and train for, positions in foreign fields; to assist in placing these youths in positions, and to find applicants for exporters.

(b) To promulgate the teaching of languages most practical in the fields of American foreign trade enterprise. To organize classes for the study of the best business methods in foreign trade, which classes shall be open to the members of the Company and their employees.

3. To compile a complete list of the various products exported by the district members.

4. To obtain the names and addresses of American representatives in foreign fields.

5. To compile a list of all foreign countries in which district members are directly or indirectly represented.

6. To compile a list of all foreign houses at present representing the district members.

7. To receive from each member, weekly, such reports as may be interesting, practical and advantageous to all members.

8. To act as a clearing-house on credits, financial and shipping rates and conditions, and such other information as could be practically given by one member to another.

9. To obtain from each member permission to consult their foreign direct representatives regarding such general information respecting the foreign field in which they work, without overstepping the premises of private business. Or, at least, persuade each member to do so directly, when requested.

10. To receive all reports from the bureau of foreign and domestic commerce, and from all other available sources.

11. To list the arrival of foreign buyers, visiting the United States, and endeavor to bring them into the district.

12. To compile all data and information released by district managers, and otherwise obtained, into a bulletin to be mailed weekly to all members.

13. To provide quarterly meetings for all members in the district, monthly and weekly meetings for members in larger centers, for the interchange of ideas and the suggestion of ways and means to make the organization more effective.

14. It shall at all times be the object of the company to promote the proper spirit of co-operative work, to exert a constant influence for harmony, friendship, better understanding, trust and confidence between all members, to the end that they may co-operate in their selling, to the greatest possible extent.

15. To form individual departments to handle the sale of the products of various members in foreign fields; these departments to be divided geographically, or according to kindred lines, and to be available to such members as desire to take advantage of the opportunity. Such departments to be under the direct charge of an expert sales manager who would be responsible only to the district manager.

The individual manufacturers should at all times quote the company their lowest export prices, allowing the company a commission, and agree to set aside a definite yearly amount of their product for export sale. They should further agree to extend such credit as the company should recommend. The company would pay the manufacturer as they received payment from the foreign buyer. They should further agree to provide for such additional sales and missionary expense as such department would entail. This sum to be agreed upon in advance of their affiliating themselves with such department. The capital stock of the company should be sufficiently large to include every exporter in the district among its stockholders. Each member shall subscribe for a definite amount of stock to be paid for in five annual installments. The total of each annual payment of all members shall be sufficient to guarantee funds for the payment of the district manager's salary, expenses, offices in the central city and at seaboard, assistants and advertising. Each member shall be limited to a stated number of shares.

It is estimated that the Ohio-Miami Valley district possesses a minimum of 500 concerns engaged in export business. If each member would agree to subscribe for stock to an extent which would make its payments $500 per annum, for five years, the district would have a fund of $250,000 per year to carry on this important work. This would give a capital stock of a million and a quarter paid up, in five years. One has only to keep in mind that the cost to each individual member is only what such member would have to pay a good office-boy, in order to appreciate the feasibility

of the plan, and the probability of every member in the district heartily endorsing and supporting the project. In addition to this sum of money, the company would benefit to the extent of the commissions paid by the individual members.

To further increase this working capital, all concerns dealing directly with the company should subscribe to its capital stock, and many concerns not now engaged in export business would naturally desire to become affiliated with the company. Before, or at the end of five years, the company would increase its capital stock, if necessary. All profits accruing in the first five years to be held for working capital. The duration of the corporation shall be permanent.

A board of directors consisting of ten or more members (as the number may warrant) shall be elected annually by the members. The board of directors, however, shall act in an advisory capacity only, to the district manager, who shall have full charge of the management of company affairs.

The corporation having been launched, the first vitally important step would be the choice of a competent manager.

He must be a leader, a high-grade, broadly-experienced executive, well versed in export business. He must be the guiding spirit from the very inception, with a wonderful amount of tact and discretion. He should choose his own competent assistants, and should have a free hand in carrying out the objects of the association. The more time he has spent in foreign fields, the more valuable he will be to the organization.

The district manager should obtain an experienced man to travel as representative of a single group in a foreign country or countries. This man should not carry more than four or five lines. His particular business would be scouting, or missionary work—selling when possible. The group he represents would stand all salary and expenses, quoting lowest export prices at all times, furnishing sufficient advertising matter, catalogs, etc., without charge, and allowing as liberal a commission as possible, also ample credit.

The group manufacturers would deal only with the district manager, and the salesman sent out would report direct to the manager. This would afford an inexpensive method for members to obtain first-hand information regarding the possibilities of selling their product in various foreign fields, and making sales at a minimum expense.

A second move would be to merge non-competitive manufacturers in the district who were doing business through foreign houses in some single country, say Brazil. The district manager, through the information obtained in a confidential way, could readily ascertain in what country existed the greatest duplication of effort, and excessive cost-to-sell on the part of ten to twenty members in his district. After carefully studying these conditions, he should evolve a practical plan for unifying all efforts, then call these manufacturers into a conference and effect a merger of selling interests. The plan would undoubtedly appeal to the majority, and the rest would come in when they perceived how well the plan would work. This idea could be carried so far as to have these manufacturers rent their own warehouse in the principal city of such foreign country, and arrange to do business direct with the final consumer.

While such district office and warehouse would be under the direct supervision of the district manager, the companies interested could send their own technical salesmen to work with the manager in charge. This procedure is followed by many American manufacturers in a slightly different way, in that their own technical experts now work with foreign houses selling their goods. This plan would call for lowest export prices and commission to the company, as well as a consignment of stock, if necessary, and proper advertising matter. It would also require of the members the extension of such credit as would be necessary to compete with foreign buyers.

The possibilities of a district export selling company are really beyond comprehension. Some of the advantages gained thereby may be enumerated as follows:

The provision of an up-to-date foreign sales organization, constructively managed, at the lowest possible expense to the individual members.

The company will obtain, quickly and efficiently, a comprehensive list of foreign buyers, their particular needs and requirements.

Definite, accurate information regarding not only their financial standing, but also their credit limitations, based upon their methods of doing business, and the character of their clients.

Greater ability to secure ocean rates and space, at lowest quotations.

Greater efficiency in invoicing and accounting. The company would establish relations with the large importing and exporting companies in all foreign countries, solicit their inquiries, make quotations on all their requirements, distribute the orders among the various members of the district, assemble all orders together into one shipment, and make one billing on the entire amount.

Possibilities of carrying American stocks in foreign countries in American warehouses, under the management of trustworthy American managers, instead of relying upon foreign houses to sell American goods, which houses may be controlled by foreign competitors.

Avoid competing with each other in foreign markets.

Gain the advantage of a joint advertising campaign, catalogs, etc.

Meet prices and deliveries of foreign competitors at all times, through co-operation.

Broaden the scope of all companies in all markets of the world.

Standardization of products to meet the need and desires of foreign buyers in different foreign countries.

And, most important, the educational and co-operative work will arouse Americans to the value and vital need for co-operative export trade quicker and better than any other method.

Such district companies will also form a nucleus for the larger and more pretentious national selling companies.

The suggestions in this plan are limited, but the potential results which even a plan of this kind offers, should encourage many districts in the United States to start at once similar companies on broader and more comprehensive lines.

He who truly loves America and places patriotism above selfishness and personal gratification, will visualize this suggestion not only as a good business move, but a great patriotic duty.

The Part of Coal in Helping to Win the War

By J. H. Wheelwright,
President, Consolidation Coal Co.

It is a common saying that this, that or the other raw material or manufactured article will "win the war." We all have seen this statement advertised many times. The Food Administration says "Food Will Win the War." The sugar refiners put up posters and car cards saying "Sugar Will Win the War." The United States Shipping Board and even the National Foreign Trade Council have said that ships will win the war, and I am inclined to agree with them, with but one amendment—coal and ships will win the war. We certainly need the ships to transport to the fighting districts the men and their supplies. Without the ships they cannot get there. But without the coal the ships cannot make their voyages, and so, after all, it is coal that is going to help in winning the war.

Perhaps there are some oil men who may be inclined to

controvert me on this point, but whatever may be the possibilities for the development of oil-burning steamships the fact is that they have not yet reached the stage where we can depend safely on oil for ocean transport power. Our reliance today is upon coal, and that is my point.

And in a double sense it is foreign trade in coal that is furnishing such powerful war winning assistance just now. For the service rendered by this humble product of American mines and industry is by no means confined to filling the bunkers and supplying the steam for our transports and the other steamers that are carrying the huge bulk of military supplies, food and other articles to our allies and to the neutrals of Europe and the remainder of the world. We have even exported coal to Europe and thereby secured supplies which otherwise would not have been available. And we have sent coal to South America and secured in return materials of the highest value in the production of munitions and other war supplies.

As an article of direct commerce, therefore, export coal is rendering an important war winning service. In the bunkers of troop ships, other transports, liners and traders to our allies it is rendering another distinct, but important, war winning service. And in the bunkers of neutral ships, not subject to the degree of control impressed upon American vessels, American coal is producing a responsiveness on the part of the ship owners to the requests of this government which has distinctly a war winning value.

Thus in various ways and with varying influence export coal is doing its share of America's part in the great war. If I were to stand here an hour I could not enumerate the domestic ways in which coal is helping in war work. Without suggestion they will occur to you in ever lengthening catalogue.

When the war is successfully concluded there will be opened up to America to my mind, a wonderful opportunity to further expand her exportations of coal. The splendid progress made in the early stages of the war in introducing American coal in foreign markets and the further extension and strengthening of its position in markets that had been more or less established—now at a lull for reasons with which we are familiar—will give us an opportunity of pushing our coal that is now beginning to be known in the markets of the world and it will not be looked upon as so much in the past by foreign buyers, as an experiment and often costly to them, but a commodity recognized as possessing proven qualities particularly adapted to their requirements.

Many of the unfavorable conditions with which the American coal exporter had to contend will be removed or greatly remedied, a few of which may be enumerated, as for instance:

First—Lack of knowledge of the quality and character of our coals by foreign buyers.
Second—Lack of vessels under the American flag to transport our product.
Third—Unfavorable maritime laws making it impossible to construct or operate vessels in competition with vessels under foreign flags.
Fourth—Adverse credit balance conditions and exchange facilities.

Great strides have been made in solving the first by the large amount of coal exported early in the war, at a time when conditions made only American coal available to foreign consumers and its quality, character and preparation fully and satisfactorily met their requirements when intelligently applied. This latter feature should be jealously watched and most painstaking and earnest care taken in ascertaining from the buyer for just what purpose the coal is to be used, as a mistake in the application of coal of the quality required is so costly as to make a customer reluctant to again give it a trial and this feature alone had given American coal an undeserved bad name in many communities.

The second is being rapidly solved by the construction and acquisition by both our government and individual capital of a large fleet of vessels.

The third will doubtless be solved as the crying necessity for an adequate merchant marine has been so forcibly demonstrated and the cessation of hostilities will find such a great investment of government and private capital in vessel tonnage as to certainly insure such a correction or revision of the previous laws as to place our vessels where they can fairly compete with those under other flags.

The fourth has already been solved by the readjustment of international credits that has gradually taken place during the progress of the war, and the banking facilities abroad that have been established by our large banking institutions by placing branch offices in the important centers of all foreign countries. This would appear to have placed us on an equality with our competitors in the very important item of credit and exchange.

Thus with some of the obstacles removed and with the entering wedge already made, we must be prompt to take advantage of and make the most of the pioneer work already done, the moment conditions seem to make the opportunity present itself. Immediately after the termination of the war, I believe there will be a tremendous world wide demand for coal, as most countries, including our own, have practically no stocks available, so that there is no question but what foreign trade is going to be limited to the ability of the mines to produce and provide transportation facilities, and the controlling factor will be labor.

It looks as though we would have a ready export market for all the coal we can ship during the period of reconstruction, as the producing countries of Europe will feel the effects of depleted man power, and in many sections it will take a long time to restore to anything approaching normal production the properties that have been devastated by the war.

By the time the war is successfully concluded this country should be in a position she has never been in before—she will have American vessels to carry coal and other exports to foreign countries and bring back such of their products as we import, placing us on a more favorable basis in so far as marine rates are concerned, and in addition we will have gained knowledge, such as our experience will have taught us in the handling of the huge export tonnage we have moved since the war has been on, and with adequate international banking facilities to handle.

Indeed the question in my mind is whether we will have at that time the production of coal sufficient to enable us to supply the demands made upon us by foreign countries, which would be unfortunate, for as I have said before, it appears to me to be of the utmost importance that we be prepared and prompt to supply any demand arising, as, unless American coals are supplied immediately and foreign nations are allowed to go back to their old sources of supply, it would be difficult to displace them and much of the ground would have to be gone over again.

The mines of America have the capacity to meet such an emergency, and it seems the vessel tonnage will be available, therefore the question seems to resolve itself into our getting the coal loaded on cars and transported to tide—a matter of transportation and labor. The inadequacy of railroads to handle the tonnage of coal which can be produced in this country has been strikingly demonstrated during the past year, and not only the government but the people at large now realize a situation which has been known and proclaimed by the coal industry for years. We have faith in our government, however, that when a condition has been so fully demonstrated, effort will be made to remedy it, and already we find concentrated effort being set forth to improve railroad facilities of the country, with a view to unification of systems and terminals as well as many new methods to handle such commodities as coal, with a view to improving the situation that has so long existed. In all probability, at the end of the war, there will be a letting up in home demand and many men who have left the coal mining industry for work in munition and kindred employment, will sooner or later be seeking their old vocation of coal mining.